

U.S. CUSTOMER SERVICE PRICING TRENDS

AND COMPETITIVE ENVIRONMENT

1990

INPUT

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Customer Service Program (CSP)

***U.S. Customer Service Pricing Trends and
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Abstract

This report identifies the key user and vendor issues related to service pricing in the U.S. and Western Europe. The threat of further market penetration by independent maintenance vendors is assessed and quantified.

The report analyzes and quantifies service vendor differentiation factors and recommends strategies for formulating future service price increases. Competitive challenges and opportunities are discussed and appropriate recommendations made.

The analysis indicates the level of price increases received by users in 1989 and those anticipated by users in the future.



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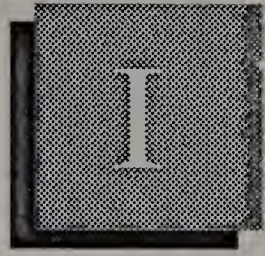
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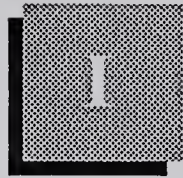
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Introduction





Introduction

U.S. Customer Service Pricing Trends and Competitive Environment, 1990 is produced by INPUT as part of the 1990 Customer Service Program—International.

A

Objectives

The objectives of this report are to:

- Identify major pricing issues from the perspective of both the vendor and the user
- Discuss and identify the key competitive market factors
- Identify and quantify the magnitude of the threat from further market penetration by independent maintenance organizations
- Identify factors by which vendors can differentiate their service from that of competitors
- Recommend vendor pricing strategies and quantify acceptable levels of future price increases
- Present data relating to user-reported price increases received in 1989 and increases users anticipate receiving in the future

B

Scope

The scope of this report covers the U.S. and selected issues from Western Europe. Data used in the analysis was collected from users of large, midrange, and PC/workstation computers in the U.S. and users of ten equipment vendors' computer systems in ten countries throughout Western Europe. The countries included in the Western European segment of the study are: Belgium, Norway, France, Spain, Germany, Sweden, Italy, Switzerland, the Netherlands, and the United Kingdom.

C

Methodology

The data presented in this report was compiled from the following sources:

- INPUT's 1990 survey of computer users throughout the U.S. and Western Europe; 259 interviews were completed in the U.S. and 732 interviews were completed in Western Europe at the time of the analysis. The users were chosen at random and were interviewed by telephone. In the Western European sample the users were interviewed in their native language. The user sample was comprised of users of eleven major vendors' systems in the U.S. and eight vendors' systems in Western Europe. The basis of the interviews was a questionnaire relating to over 50 aspects of service, compiled from discussions with major vendors.

Focused, in-depth interviews were conducted either face-to-face or by telephone with 6 users in Western Europe and 10 users in the U.S. Research from the customer services program and in-depth interviews for other reports were also used in this study. Interviews were also conducted with 16 service vendors (a mixture of equipment vendors and independent maintenance vendors) in the U.S. and 10 service managers of major computer vendors throughout Western Europe, including representatives at both the European headquarters and country levels. Details of the user sample are provided in Exhibits I-1 to I-4. A copy of the user questionnaire is included in Appendix C, and a copy of the user questionnaire in Appendix D.

D

Definitions and Interpretation of the Data

In this report, research data is segmented by system size. System sizes are defined as follows:

- Large System: a system that is considered by the vendor part of that vendor's large system product range, i.e., IBM, 308X, 309X, Bull DPS 8, Digital VAX 8XXX
- Midrange System: a system that is considered by the vendor part of that vendor's midrange system product range, i.e., IBM 43XX and S38, Bull DPS 7, Digital VAX 6XXX.
- Small System: a system that is considered by the vendor part of that vendor's small system product range, i.e., IBM S34 and S36, Bull DPS 6, Digital MicroVAX.

- Importance ratings are on a scale of 0 to 10 and are defined as follows:

0 = of no importance whatsoever

5 = of average importance

10 = extremely important

- User satisfaction ratings are on a scale of 0 to 10, and are defined as follows:

0 = totally and absolutely dissatisfied

5 = average satisfaction

10 = totally satisfied

Standard error is used in this report to indicate the degree of uncertainty between the sample mean and the total population mean. It is calculated by dividing the standard deviation (SD) of the sample by the square root of the sample size.

E

Report Structure

The remaining chapters of this report are presented as follows:

- Chapter II is an Executive Overview, which presents data in a condensed form to highlight the major findings of the report
- Chapter III provides an overview of the customer services market environment
- Chapter IV presents and discusses the key issues raised by users, and data relating to 1989 price increases reported by users
- Chapter V presents and discusses the key issues raised by vendors, identifies competitive threats, and presents data relating to future price increases anticipated by users
- Chapter VI presents analysis of data related to user perception of pricing trends
- Appendix A contains user price trend data analyzed by industry sector
- Appendix B contains user price trend data analyzed by vendor installed base
- Appendix C contains the user questionnaire
- Appendix D contains the vendor questionnaire

EXHIBIT I-1

User Sample Distribution by Vendor
U.S. Sample

Vendor	System Range			Total
	Large Systems	Medium Systems	Small Systems	
Amdahl	14			14
Apollo			9	9
Bull	19			19
CDC	12			12
Concurrent		20		20
DEC		32		32
Data General		23		23
Hewlett-Packard		13		13
IBM	31	21	16	68
NCR	21			21
Sun			16	16
Other			12	12
Total	97	109	53	259

EXHIBIT I-2

User Sample Distribution by Vendor Western Europe

Vendor	System Range			Total
	Large Systems	Medium Systems	Small Systems	
Bull	7	34	36	77
Digital	27	27	24	78
Hewlett-Packard	-	59	10	69
IBM	43	118	40	201
ICL	30	44	26	100
NCR	6	17	-	23
Siemens	5	15	3	23
Unisys	17	41	15	73
Other Vendors	3	64	21	88
Total	138	419	175	732

EXHIBIT I-3

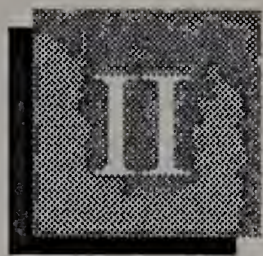
U.S. User Sample Distribution by Industry

Industry Sector	System Range			Total
	Large Systems	Midrange Systems	PC/ Workstations	
Manufacturing	28	33	17	78
Distribution	8	4	1	13
Transportation	1	1	1	3
Banking and Finance	3	3	3	9
Insurance	5	3	2	10
Government	24	13	4	41
Services	9	20	4	33
Other	19	32	21	72
Total	97	109	53	259

EXHIBIT I-4

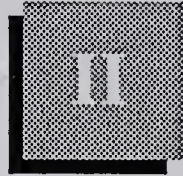
User Sample Distribution by Industry Western Europe

Industry Sector	System Range			Total
	Large Systems	Medium Systems	Small Systems	
Manufacturing	26	149	50	225
Distribution	9	49	21	79
Transportation	4	14	6	24
Government and Public Utilities	12	13	8	33
Banking and Finance	30	44	13	87
Insurance	6	9	4	19
Services	19	53	24	96
Don't Know/Other	32	88	49	169
Total	138	419	175	732



Executive Overview





Executive Overview

A

The Market Environment

1. Pricing Environment

The customer services market is becoming a more competitive environment in which annual growth has slowed from around 16% per year prior to 1987, to the current level of growth forecast, to average about 8% per year over the period 1990 to 1995.

In this competitive environment, as is shown in Exhibit II-1, equipment vendors service pricing strategies face a number of issues:

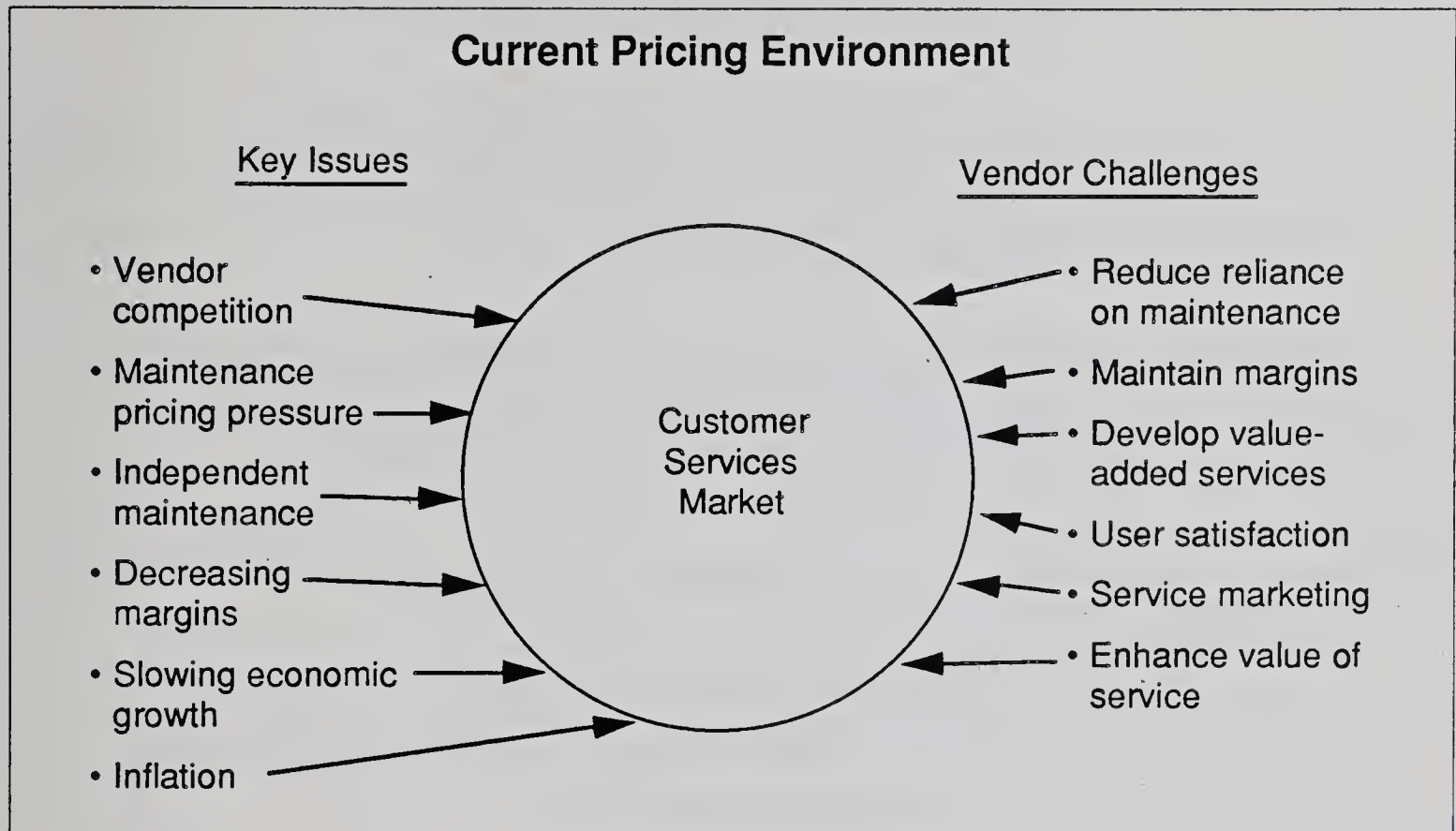
- Equipment vendors have developed multivendor services in an attempt to protect maintenance revenues against stagnating market conditions and as part of a strategy to gain market share and remain competitive with independent maintenance vendors. As a result of these strategies, equipment vendors are now also competing against each other, intensifying competition.
- Maintenance pricing is under pressure from users who consider prices excessive; in addition, reducing product prices increases the exposure of the cost of maintenance. Increased reliability of equipment is also fueling user pressure on maintenance prices. Increased competition in the market is forcing prices down as vendors struggle to maintain market share.
- The emergence of independent maintenance as a credible alternative to equipment vendor service has intensified competition. Due to their lower overhead costs and their ability to compete at lower margins, independent maintenance companies can undercut equipment vendors' prices.
- As service prices fall, equipment vendors are faced with the prospect of lower margins. This factor may result in vendors being subjected to internal pressure to reduce costs, which may compromise the vendor's ability to provide the quality service and responsiveness required by users.

- Slowing economic growth and increasing inflation is causing users to seek cost reductions in order to remain competitive, which in turn places pressure on service pricing.

In addressing these issues, vendors need to generate strategies to deal with the challenges these issues present:

- Currently, equipment vendors rely on equipment maintenance for between 75% and 80% of their customer services revenues. Therefore, the primary source of customer services revenue is derived from a highly competitive sector of the market, where growth is stagnating.
- As maintenance prices increase, equipment vendors need to find methods by which the same quality of service can be delivered at reduced cost, in order to maintain margins.
- Develop non-maintenance added-value services to reduce reliance on maintenance revenues; take advantage of markets that are growing at up to 25% per annum; and through these non-maintenance services, gain competitive advantage and regain market initiative.
- User satisfaction with service prices is relatively low. Therefore, equipment vendors need to devise a strategy that will retain service margins without further lowering user satisfaction.
- There is a need to develop promotional and marketing strategies that raise the profile and enhance the perceived user value of service.

EXHIBIT II-1

Current Pricing Environment**2. Service Market Trends**

Equipment vendors are finding their previously dominant position being reduced to one of defensiveness or entrenchment as competition intensifies and market conditions deteriorate. A number of changes are occurring, partly as a result of equipment vendors' plans to regain initiative. These changes, presented in Exhibit II-2, include:

- As product prices fall, partly as a consequence of improving technology, the cost of service is tending to rise proportionally. This increase in relative cost is serving to expose the cost of service.
- As product prices continue to fall, equipment is becoming increasingly reliable. Therefore, the importance and required amount of equipment maintenance is reduced.
- Service vendors are starting to implement plans to develop integrated service solutions. These comprise a mix of maintenance, software support, professional and other related services.

- The advent of multivendor services provided by equipment vendors is leading to partnerships and alliances, mainly between equipment vendors. The purpose of these partnerships is to ensure adequate servicing of a wide range of vendor equipment.
- As equipment vendors succeed in their development of integrated service solutions and the emphasis on equipment maintenance declines, the future viability of independent maintenance becomes open to question. This doubt results from the IMO's lack of software support credibility and capability.
- Service costs are increasingly being subjected to executive scrutiny. Coupled with user awareness that service prices are negotiable and the level at which these are now being negotiated, increasing pressure is being focused on service vendors to reduce prices.

EXHIBIT II-2

Service Market Trends

- Increasing service/box cost ratio
- Decreasing emphasis on equipment maintenance
- Integrated/solution service
- Partnerships/alliances
- Decreasing viability of independent maintenance
- Increasing user executive involvement

3. Market Opportunities

A number of opportunities are available to service vendors to address the challenges presented by the current competitive nature of the customer services market. The opportunities presented in Exhibit II-3 include:

- Vendors should consider restructuring their serve to service the user's business, rather than servicing the user's computer system. While restructuring service offerings, vendors could also implement a degree of flexibility in developing service solutions that meet the specific needs of the user's business.

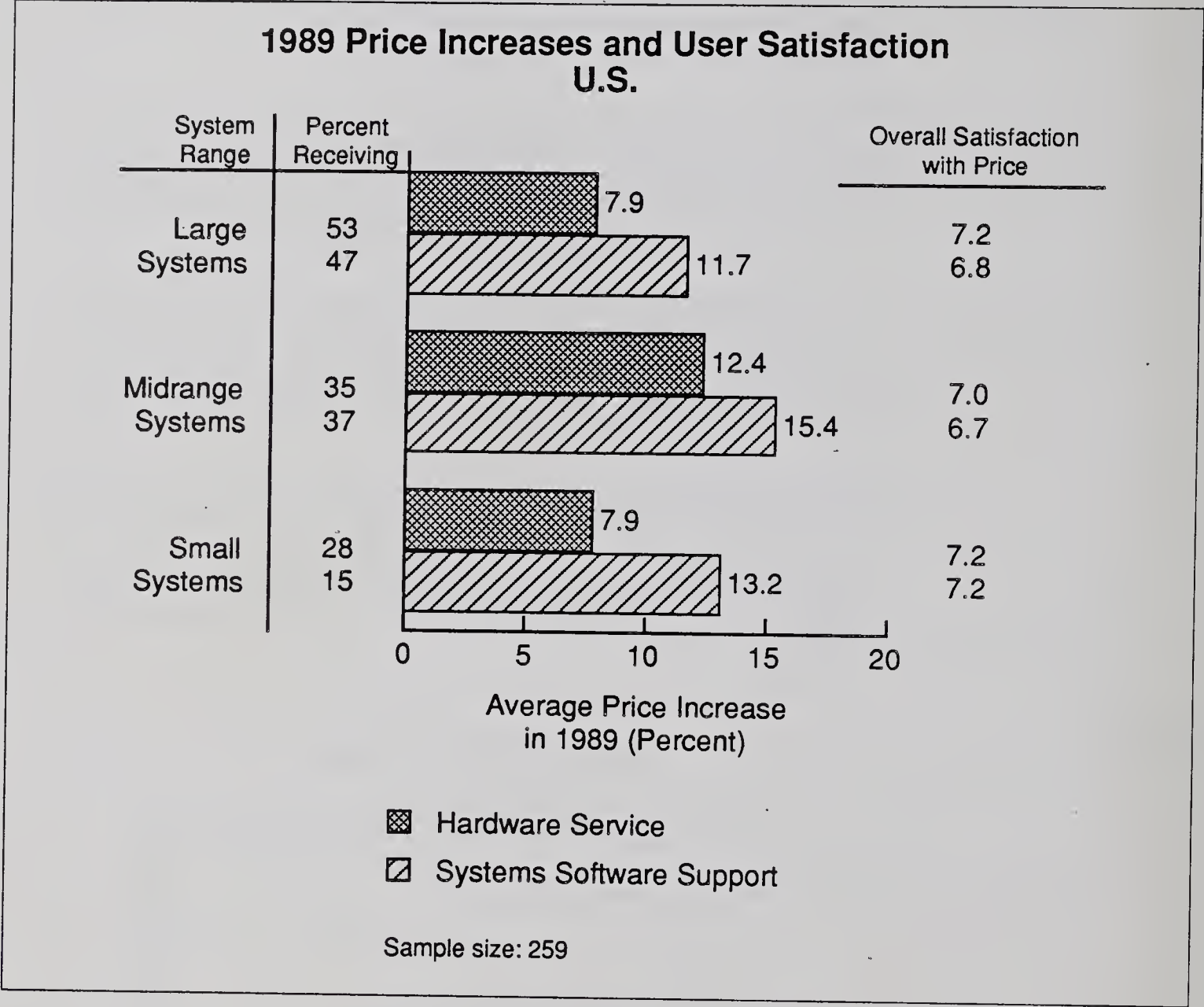
- As computers continue to expand into all levels of the business community, many new users will be less computer literate. Less sophisticated users present an opportunity for vendors to provide services that address the specific needs of these users.
- The development of non-maintenance services is a key requirement for equipment vendors who are seeking to reduce reliance on maintenance revenues, and regain competitive initiative. Non-maintenance services present opportunities in markets where annual growth approaches 25%, and are the key to development of integrated service solutions.
- As user satisfaction with service price is generally moderate, as shown in Exhibit II-4, equipment vendors have an opportunity to improve user satisfaction by holding future price increases at around inflation levels. Inflation-level price increases are more easily justified and are likely to produce less emotive user reaction.
- Only about 50% of users overall claim to receive regular annual service price increases. An opportunity therefore exists for equipment vendors to impose future price increases across a larger proportion of their installed base at a justifiable inflation level. The result would likely be a higher revenue return and would carry a lower risk of negative user reaction.

EXHIBIT II-3

Market Opportunities

- Provide service to enhance users' business
- Flexible service solutions
- Respond to needs of less sophisticated users
- Reduce selective pricing
- Non-maintenance services
- Inflation-level price increases

EXHIBIT II-4



B

User Pricing Issues

1. Value Judgments

There are certain value perceptions that the users bring to their evaluation and judgments on the price paid for service and support. The two main issues, shown in Exhibit II-5, deal with the users' perception of the price paid for service and the value of that service.

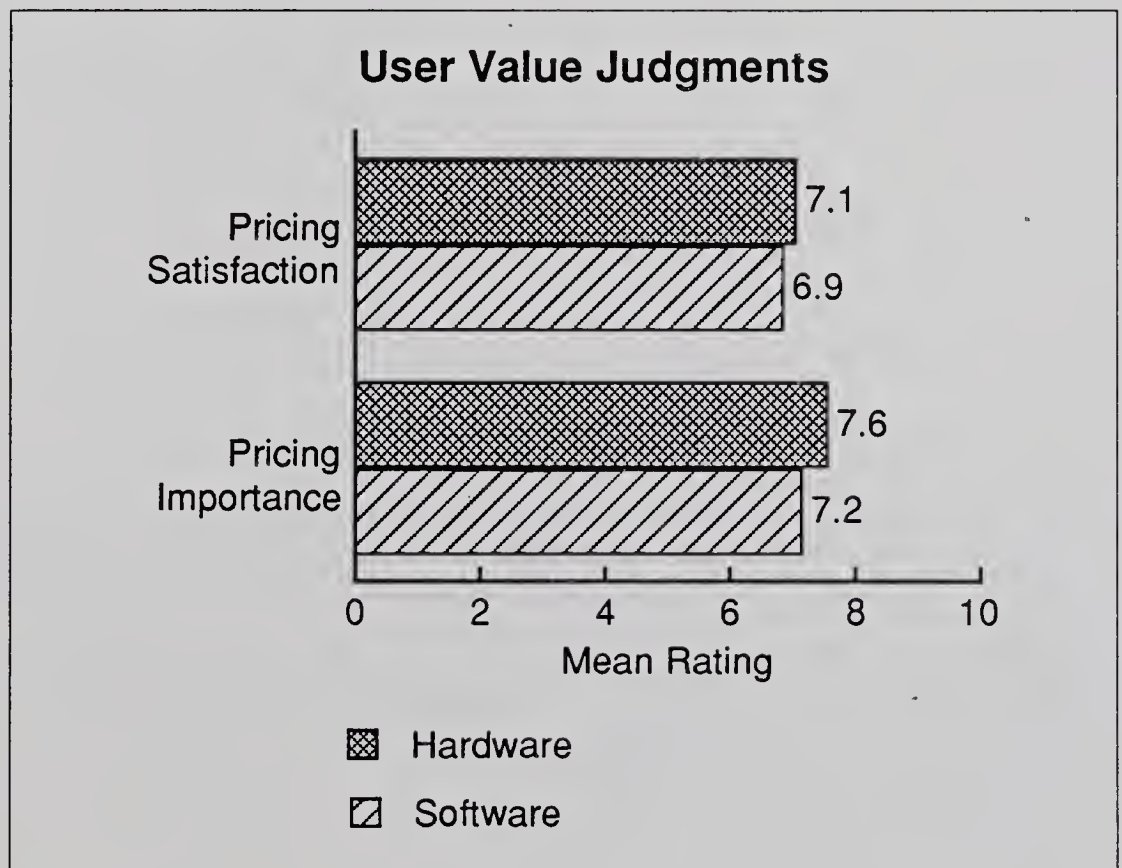
The users interviewed appeared to be fairly pleased with the prices that they pay for service and support of their computer hardware and software. They seem to have a realistic view of what service is worth and shop for the best bargain.

When evaluating their service vendor, users report certain strengths that they feel the equipment vendor has over independent maintenance vendors. These strengths include a sense of security about the financial stability and size of the vendor and the vendor's in-depth and detailed knowledge of the hardware and system software. Users feel that equipment vendors have an edge by being able to provide spare parts, since they manufacture the equipment.

Weaknesses reported by the users include price for value received, inconsistency in service performance, and poor service sales organizations. Service and support need to be viewed by the equipment vendor as part of a valuable product offered to customers, not as an afterthought.

The service vendor is also judged against the user's requirement and how the vendor provides service to meet these requirements. The requirements include response time when a failure is reported and improved availability of spare parts so as to have the equipment operational as quickly as possible after arriving on the premises. Users are demanding more service in addition to the service and support of the equipment itself, with the vendor selling the concept of a complete solution to the user's equipment service and support requirements. The service vendor must also sell the concept of value for the prices paid. The service vendor must assist the user in enhancing his business, not just service his maintenance needs.

EXHIBIT II-5

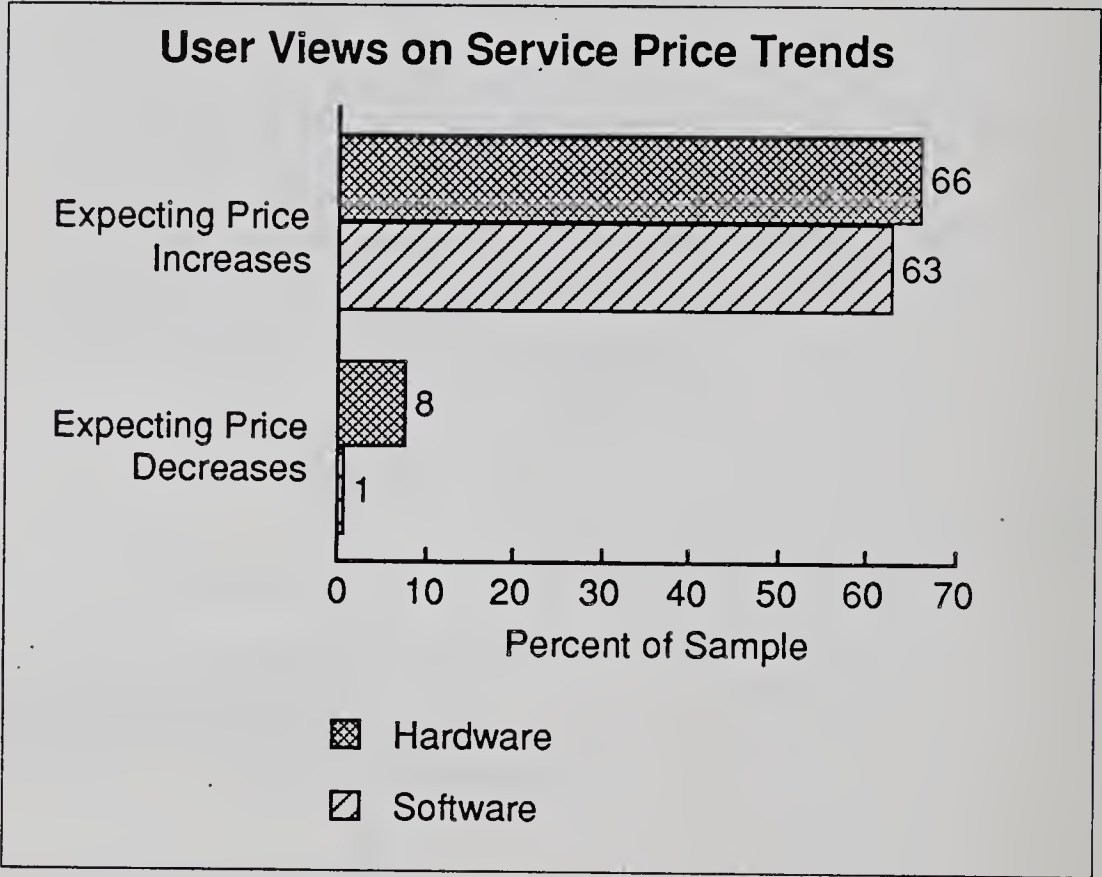


2. Pricing Trends

There are two opposing views given by users concerning service pricing trends. The most common view (View A in Exhibit II-6) is that service prices will grow at a rate higher than inflation. This view is supported by over 50% of the users, who expect increases averaging 6.6% to 7.6% in the future. One major reason given for increasing prices is increasing system size and complexity.

The opposing view is that prices will decrease due to increasing efficiencies in hardware, reductions in equipment prices, and improved reliability of the hardware.

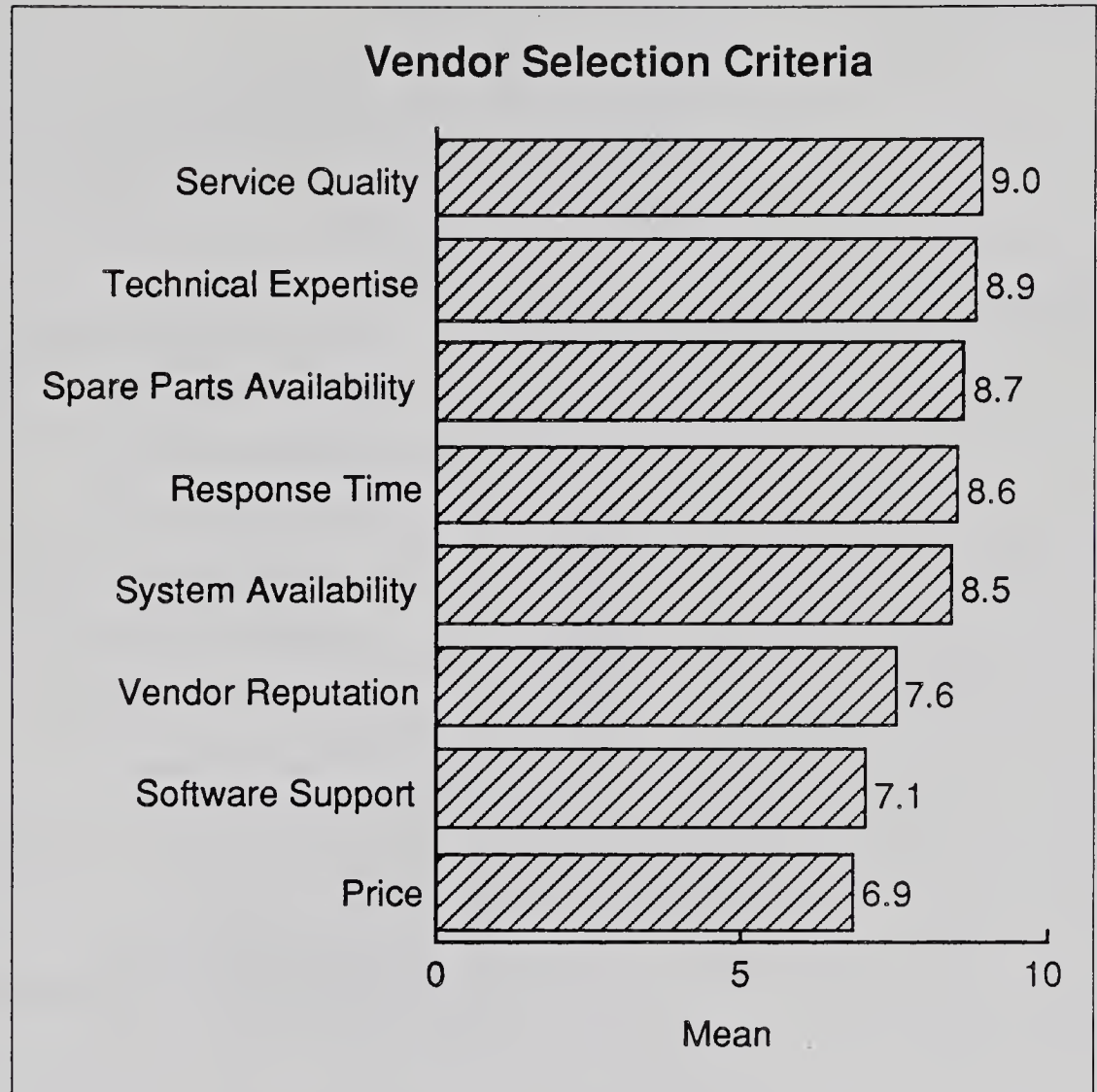
EXHIBIT II-6



3. Vendor Differentiation

When evaluating a service vendor, users appear to examine much more than just prices. Users were questioned on the importance of several criteria, and as shown in Exhibit II-7, price is actually number four, in mean ratings after service quality, vendor reputation, and software support. The service quality aspect includes the technical expertise of the vendor, availability of spare parts, response time, and overall system availability.

EXHIBIT II-7



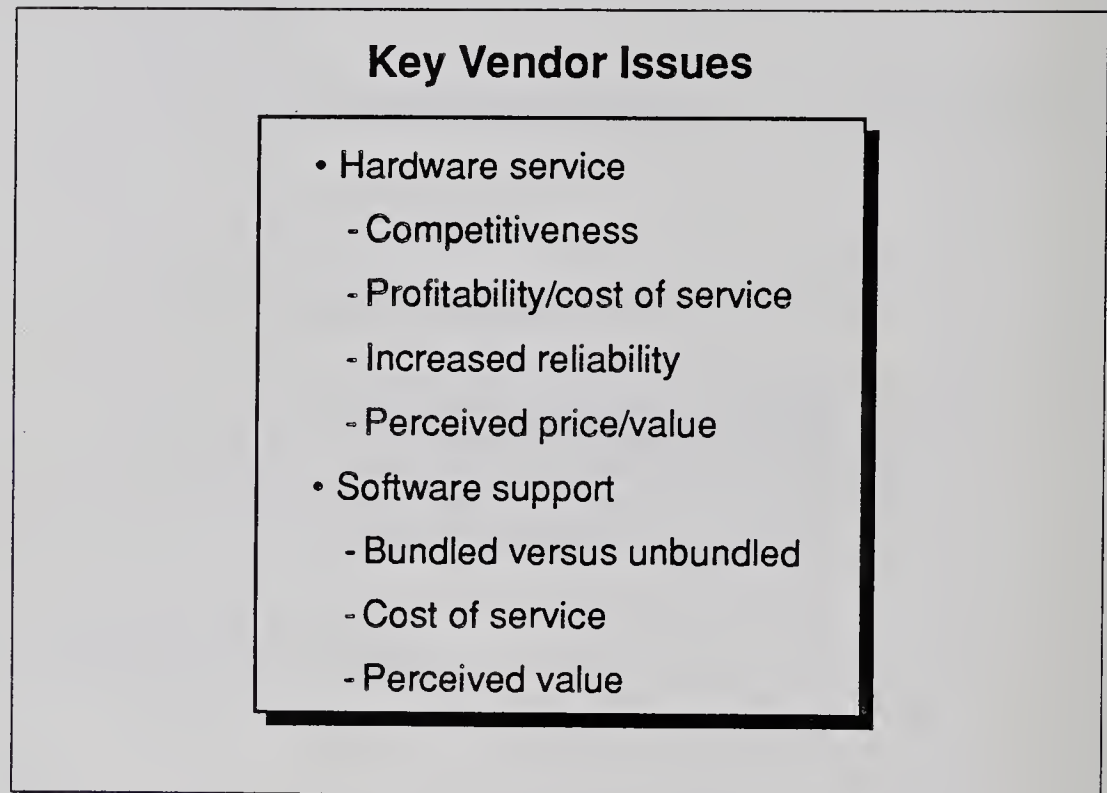
C

Vendor Issues

1. Key Vendor Issues

Key issues from the vendor perspective are presented in Exhibit II-8. These issues include the major problems of competitiveness, profitability / cost of service, the increased reliability of the equipment, and users' perceptions of value.

EXHIBIT II-8



2. Pricing Strategy Evolution

Exhibit II-9 presents the likely path that pricing will take in the future. Currently, equipment vendors are adopting a position of entrenchment, a very defensive policy, due to the forces creating pressure on revenues and margins. They are primarily concerned with protecting the current revenue base.

The vendors' primary aim in regaining the initiative is to capitalize on software capability and to develop professional services to support the user's business. Thus, vendors are developing more of an integrated approach to service and support.

EXHIBIT II-9

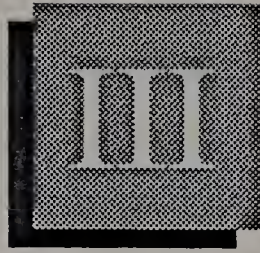
Vendor Pricing Strategy Evolution**Current Protectionism**

- Balance revenues/margins with competitive needs
- Improve flexibility and user choice
- Niche markets
- User education

**Future Initiatives**

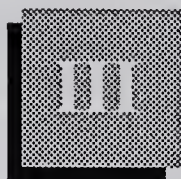
- Provide integrated solutions/
reduce reliance on maintenance
- Margin planning
- Plan for lower margins
- Follow competitive trends

Sample size: 26



Competitive Market





Competitive Market

A

Pricing Environment

The key issues and challenges facing equipment vendors are illustrated by Exhibit III-1.

The customer services market is becoming a more competitive environment in which annual growth has slowed from around 16% per year prior to 1987, to the current level of growth, forecast to average about 8% per year over the period 1990 to 1995. Of more significance, the growth in the hardware maintenance sector of the market has reached stagnation level.

In this competitive environment, equipment vendors' service pricing strategies face a number of issues:

- As part of a strategy to gain market share and remain competitive with independent maintenance vendors, equipment vendors have developed multivendor services in an attempt to protect maintenance revenues against stagnating market conditions. As a result of these strategies, equipment vendors are now also competing against each other, intensifying competition.
- Maintenance pricing is under pressure from users who consider prices excessive; in addition, reducing product prices increases the exposure of the cost of maintenance. Increased reliability of equipment is also fueling user pressure on maintenance prices. Increased competition in the market is forcing prices down as vendors struggle to maintain market share.
- The emergence of independent maintenance as a credible alternative to equipment vendor service has intensified competition. Due to their lower overhead costs, and their ability to compete at lower margins, independent maintenance companies can undercut equipment vendors' prices. As a result of their competitive position and increasing user

need for lower service costs, independent maintenance companies are forecast to increase their market share from the current 8% to about 11% by 1995.

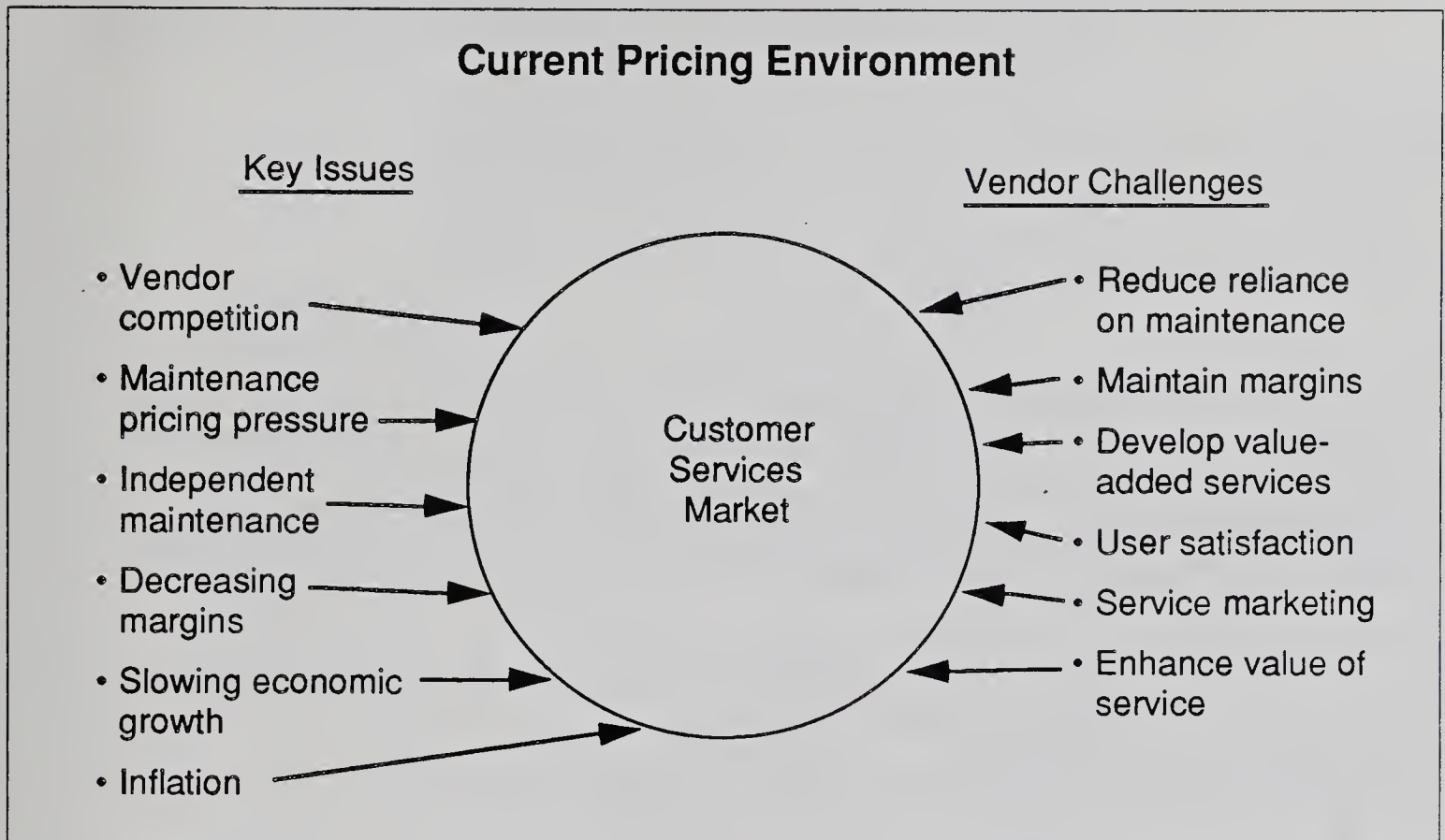
- As service prices fall, equipment vendors are faced with the prospect of lower margins. This factor can result in vendors being subjected to internal pressure to reduce costs, which may influence their ability to provide the level of quality and responsiveness required by users.
- Slowing economic growth and increasing inflation are causing users to seek cost reduction in order to remain competitive. This user search for cost reduction creates further pressure on service pricing.

In addressing these issues, vendors need to generate strategies for dealing with the challenges these issues present:

- Reduce reliance on maintenance revenues. Currently, equipment vendors rely on equipment maintenance for between 75% and 80% of their customer services revenues. Therefore, the primary source of customer services revenue is derived from a highly competitive sector of the market where growth is stagnating.
- As prices—particularly for maintenance decrease, equipment vendors need to find methods by which the same quality of service can be delivered at reduced cost in order to maintain margins.
- Develop non-maintenance added-value services to reduce reliance on maintenance revenues and take advantage of markets that are growing at up to 25% per annum. Vendors can also, through these non-maintenance services, gain competitive advantage and regain market initiative.
- User satisfaction with service prices is relatively low. Therefore, equipment vendors need to devise a strategy that will retain service margins without further lowering user satisfaction. Competitors will be quick to take advantage of any equipment vendor who misjudges this balance.
- There is a need to develop promotional and marketing strategies that raise the profile and enhance the perceived user value of service. Some suggestions made by users to achieve this improvement in the value of service are highlighted in Chapter IV of this report.

EXHIBIT III-1

Current Pricing Environment



B

Balancing Market Needs

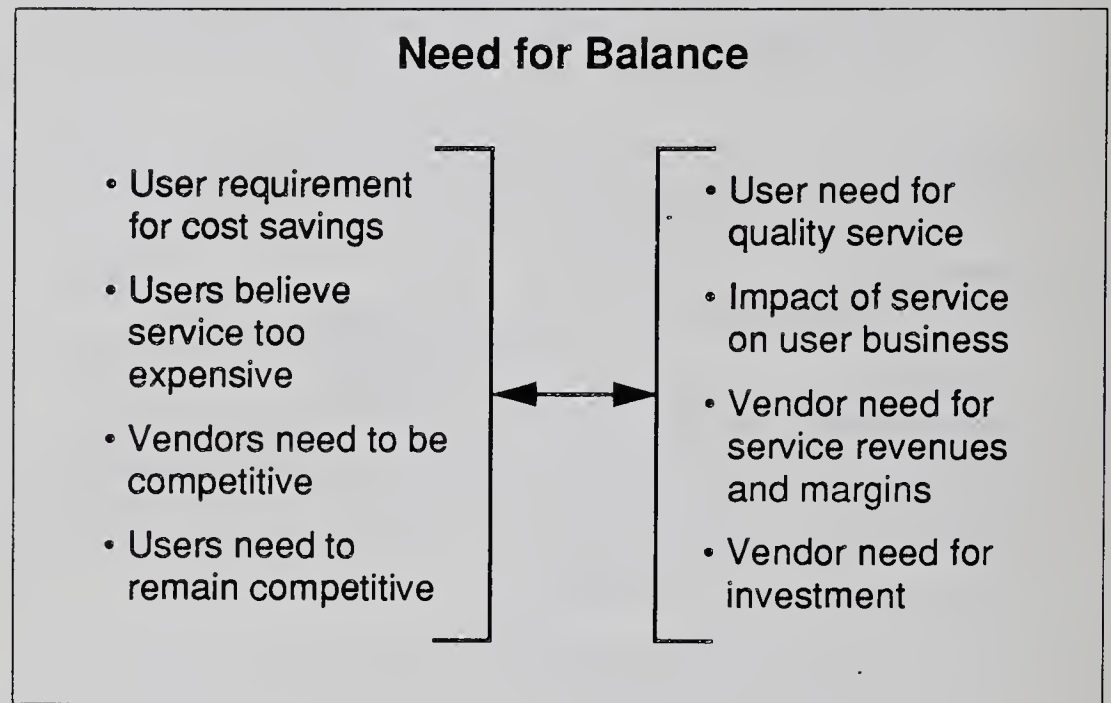
Exhibit III-2 presents factors that equipment vendors need to balance when deciding on pricing policies and strategies.

Users need to remain competitive in their own business in the face of declining economic conditions. Therefore, users who already believe that service is too expensive are seeking cost reductions to improve their own business efficiency. In order to balance these conditions, service vendors need to develop a pricing strategy that will minimize negative user reaction while continuing to deliver the quality of service that users demand.

Users need to be made aware that excessive pressure on prices could result in reduced quality or a reduced level of service being available. Should this situation arise, the impact of poor service on the users' business could have serious implications. Therefore, the equipment vendor has a high degree of responsibility to ensure that by remaining competitive and responding to user pressure, deliverable service is not compromised.

Although they need to remain competitive, equipment vendors must temper competitive drive against the need to retain service revenues and maintain margins. Equipment vendors need to maintain margins in order to provide for investment in improving service technology and developing capability for servicing new products.

EXHIBIT III-2



C

Service Market Trends The customer services market is currently going through a transitional phase. Equipment vendors are finding their previously dominant position being reduced to one of defensiveness or entrenchment, as competition intensifies and market conditions deteriorate. A number of changes are occurring, partly as a result of equipment vendors' plans to regain initiative. These changes are listed in Exhibit III-3.

- As product prices fall—partly as a consequence of improving technology—the cost of service is tending to rise proportionally. This increase in relative cost is serving to expose the cost of service.
- As product prices fall, equipment is becoming more reliable. Therefore, the importance and required amount of equipment maintenance is reduced.
- Equipment vendors are starting to implement plans to develop integrated service solutions. These comprise a mix of maintenance, software support, professional and other related services.
- The advent of multivendor services provided by equipment vendors is leading to partnerships and alliances, mainly between equipment

vendors. The purpose of these partnerships is to ensure adequate servicing of a wide range of vendor equipment. There is also a suggestion of a trend in partnerships aimed at providing a wider range of services than could be offered by each individual company.

- As equipment vendors succeed in their development of integrated service solutions, and as the emphasis on equipment maintenance declines, the future viability of independent maintenance becomes open to question. This doubt over the future viability of independent maintenance companies results from their lack of software support credibility and capability.
- Service costs are increasingly being subjected to executive scrutiny. As service costs are the largest single item of ongoing computer operational cost in some user organizations, these costs are being increasingly assessed at a senior level. Due to user awareness that service prices are negotiable, and the level at which they are now being negotiated, increasing pressure is being focused on service vendors to reduce prices.

EXHIBIT III-3**Service Market Trends**

- Increasing service/box cost ratio
- Decreasing viability of independent maintenance
- Decreasing emphasis on equipment maintenance
- Integrated/solution service
- Partnerships/alliances
- Increasing user executive involvement

D

Market Opportunities

Exhibit III-4 lists a number of opportunities available to equipment vendors to address the challenges presented by the current competitive nature of the customer services market.

- An opportunity exists for a change in service strategy. Equipment vendors should consider restructuring their service in order to serve the user's business, rather than servicing the user's computer system. In doing so, equipment vendors could also implement a degree of flexibility in developing service solutions that meet the specific needs of a user's business.

- As computers continue to expand into all levels of the business community, it is inevitable that many new users will be less than computer literate. These less sophisticated users present an opportunity for equipment vendors to provide services that address the specific needs of these users.
- As user satisfaction with service price generally ranges between moderate and poor, equipment vendors have an opportunity to improve user satisfaction by holding future price increases at around inflation levels. Inflation-level price increases are more easily justified and are likely to produce less emotive user reaction.
- Only about 50% of users overall within the U.S. and Western Europe claim to receive regular annual service price increases. An opportunity therefore exists for equipment vendors to impose future price increases across a larger proportion of their installed base at a justifiable inflation level. The result would likely be higher revenue return and would lower the risk of negative user reaction.
- The development of non-maintenance services is a key requirement for equipment vendors who are seeking to reduce reliance on maintenance revenues and regain competitive initiative. Non-maintenance services present opportunities in markets where annual growth approaches 25%, and are the key to the development of integrated service solutions.

EXHIBIT III-4

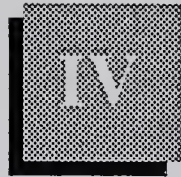
Market Opportunities

- Provide service to enhance user's business
- Provide flexible service solutions
- Respond to needs of less sophisticated users
- Inflation-level price increases
- Reduce selective pricing
- Non-maintenance services



User Pricing Issues





User Pricing Issues

This chapter of the report focuses on the key issues identified by users, in terms of their qualitative needs and value perceptions:

- Value judgments of the relationship between service needs and service requirements
- Opposing user views on pricing trends and quality premiums
- Factors by which users rank service vendors, and country market differentiation characteristics
- Relationship between price increases and user satisfaction with price
- The last section of this chapter contains a listing of comments received from users, which provides a qualitative assessment of the current pricing environment.

A

User Value Judgment 1. Cost of Service

There are somewhat different user perceptions of the prices paid for service in the U.S. and Western Europe. General views expressed by users in the U.S. and in Western Europe are listed in Exhibit IV-1.

The U.S. users interviewed seem to be fairly certain that they are paying a fair price for service—not a great price, but fair for the value. They appear to have a realistic view of what prices are and what kind of service to expect for their money. The U.S. users also seem to “shop” for the best service bargains and feel that they have negotiated the best deal for service.

In Western Europe, user opinions about the cost of service are more concerned with the value received in return for the high price paid. Although there is little distinction between equipment maintenance and systems software support in terms of user-perceived value, on balance, systems software support is judged by users to provide marginally better price/performance. The better value of systems software support is illustrated by the relationship between larger price increases received by users and satisfaction with price, which is similar to that for equipment maintenance.

One major concern expressed by users in Western Europe was that service tends to represent the largest single item of ongoing cost and that the price paid is not reflected in the value received. Analysis of user satisfaction with service price supports the views expressed by users.

Due to their intimate involvement with their computer systems and vendor promotional activities, users are well aware of the improvements in equipment reliability achieved over the last eight years or so. Users point out that current generation equipment is very reliable, but that service costs have not fallen in proportion to improved equipment reliability. A further factor is that falling product prices have negatively influenced user perception by increasing the exposure of service costs.

Vendor responsiveness is claimed by some users to be suffering as a consequence of insufficient resources. Two examples provided by users in Western Europe illustrate the nature of the problems encountered:

- One user, whose system was still under warranty, had been assured by the equipment vendor that he could expect a four-hour response in the event of a failure. When failure did occur, vendor response time was increased by a large margin. When the user complained about vendor failure to meet response time requirements, the vendor claimed it had been "rather busy".
- One of the users interviewed stated that the service contract provided daily cover between 0830 hours and 1800 hours. However, it was impossible to get an engineer on site before 1100 hours or after 1500 hours.

EXHIBIT IV-1

User Service ViewsU.S.

- Educated shoppers
- Fair value for price
- Realistic pricing for service
- Negotiated best deal

Western Europe

- Largest single item of cost
- Service overpriced for value received
- Does not reflect high reliability of equipment
- Insufficient vendor resources

2. Service Value

Exhibit IV-2 provides illustration of views expressed by users in their assessment of the relative strengths and weaknesses of vendors, and suggestions that could be adopted to enhance the value of service.

The major strength of equipment vendor service, as expressed by users, is the sense of security that equipment vendor service provides. The sense of security comes from the financial strengths and resilience that the size and stability of the equipment vendor organizations affords; users are thereby assured of the ability of equipment vendors to resolve serious problems. The equipment vendors' detailed and in-depth knowledge of their own equipment and the quality of the equipment supplied were considered significant attributes by users.

The ability of equipment vendors to support systems software was highlighted by users as a factor that differentiates equipment vendor service from that of independent vendors. Previous research by INPUT revealed that although independents could provide a degree of software support, their credibility was questioned by users. Software support is clearly considered the province of equipment vendors.

Another area of concern to users is spares availability. Since the manufacturer has the stock of parts used to build the equipment, users believe

that they also have the best stock of spare parts available for the repair of the equipment. With advances in spare parts stocking and distribution, the independent maintenance companies have started to chip away at this belief. Many users are starting to see that independents can also provide the spares required to keep the equipment operational.

Equipment vendor weaknesses, apart from the price/value relationship discussed in the previous section of this chapter, are inconsistency of performance and failure to sell/promote service. Inconsistency of performance occurs in two areas: differences in performances across different aspects of service, and, day-to-day inconsistency.

The selling of service is a key issue for vendors that was raised by users. The issue is that many vendors fail to promote the value of service. Also, equipment sales organizations tend to treat service as an after-thought. In a competitive environment, service needs to be sold, and equipment vendors face a serious challenge in devising the right incentives, so that their sales organization may actively sell service.

Mergers and acquisitions are perceived by users as being a weakness until the resultant organization is fully settled in and providing a coordinated service effort. When two organizations merge and the service prices are different for the same service from each organization, users become confused and may conclude they have been paying too much for service. The problems and disparities of merged organizations need to be resolved before the merged company approaches customers for service. Users should see only the coordinated, comprehensive service organization.

Users also offered suggestions as to how vendors could enhance the value of service. These suggestions are in three areas:

- Demonstrate measurable service
- Improve recognition of user needs
- Improve knowledge of the users business

However, an important opportunity emerges from these suggestions, which vendors should seriously consider in their plans to improve the value of service and the user satisfaction level. This opportunity is for vendors to develop a strategy in which service is provided to enhance and match the needs of the user's business, rather than providing service that meets the requirements of the computer system or the service vendor.

EXHIBIT IV-2

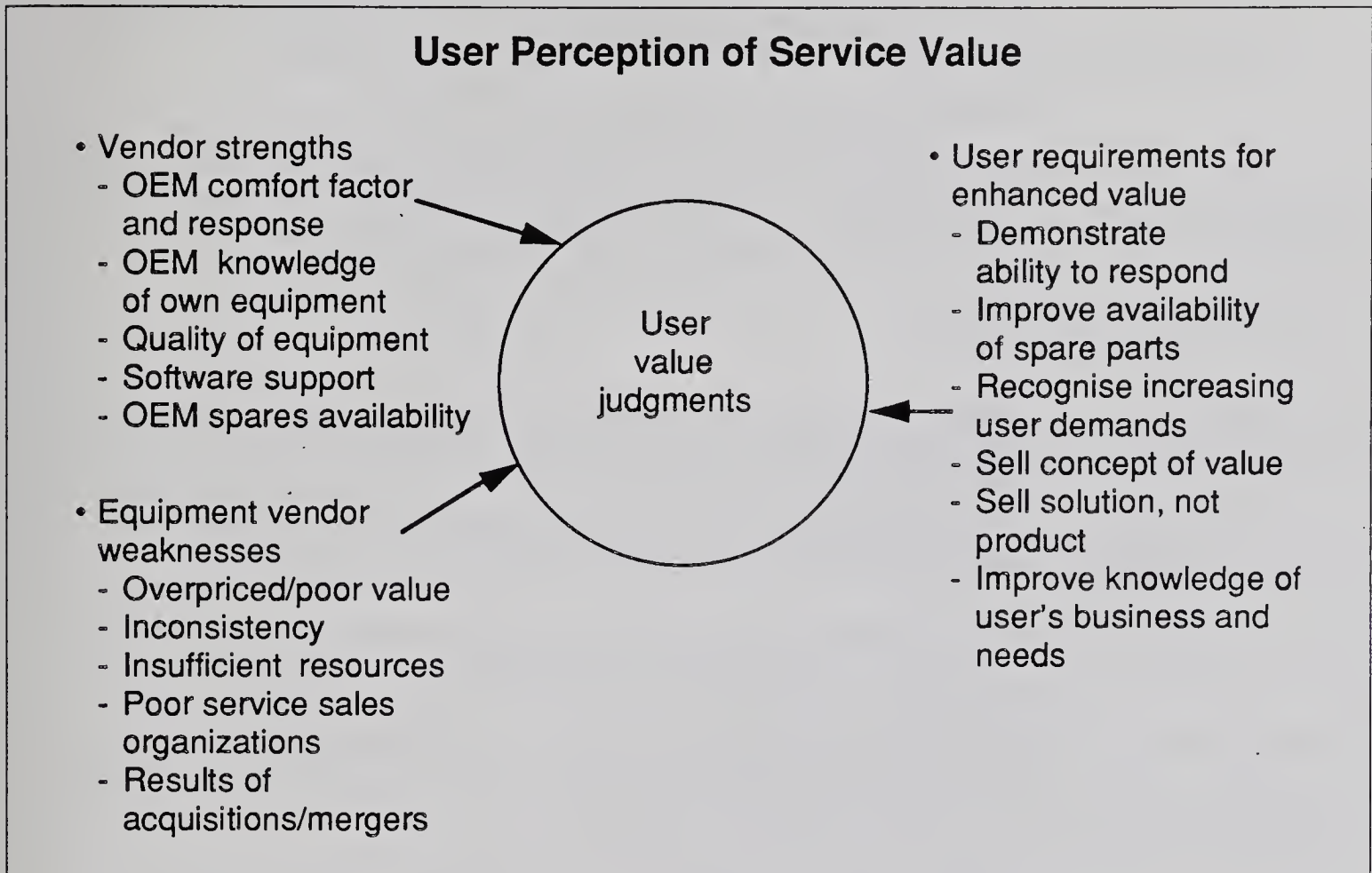
**B****Opposing User Views 1. Price Trends**

Exhibit IV-3 highlights opposing user views of future service price trends, and lists the primary factors that support these opposing views.

View A

One common view expressed by users was that service price increases continually outstrip prevailing inflation levels. This view is supported by analysis of user-perceived price increases. In 1989, the average price increases that users reported overall for equipment maintenance in the U.S. were slightly higher than inflation and in Western Europe were about 50% higher than average inflation levels; those for systems software support were about twice the average level of inflation. This pattern of price increases is apparent whether the data are analysed by country market, industry sector or vendor installed base.

User views that service price increases will continue to at least match inflation levels is supported by factors such as the increasing complexity and size of computer systems, providing opportunities for equipment

vendors to increase prices, often disproportionately. Also, although competition in the market is strong, it will not succeed in holding prices, and users expressed awareness that service may be used as a profit-generating mechanism to offset falling product margins.

The user perception is that service prices are currently equivalent to about 10% to 12% of capital outlay. However, one view expressed was that service costs would rise to between 12.5% and 15% of capital outlay, partly as a consequence of increasing system complexity, and partly due to a vendor need for higher investment levels.

View B

The opposing user view that service prices will fall. This is based on the belief that as equipment prices continue to fall and equipment reliability continues to improve, equipment vendors will reduce service prices. This reduction will occur as a result of user pressure, and equipment vendors being unable to justify current service pricing levels.

One further factor that could be responsible for reductions in service price is users' assessing cost of ownership and, as a result, looking for equipment that reduces ongoing costs. One user in Western Europe provided an example of this trend by claiming that a current annual service cost of about \$20,000 per year would decrease to about \$35,000 over five years, following installation of a new system—an AS/400.

Vendors need to be aware that price increases that regularly exceed inflation are likely to result in continuing user dissatisfaction, particularly if users feel that price exceeds value.

EXHIBIT IV-3

Opposing User Views on Service Price Trends

View A

- Prices will continue to rise by at least inflation levels
 - Increasing system size/complexity
 - Increased competition will not hold price increases

View B

- Expectation that prices will decrease
 - Decreasing equipment prices
 - Improved reliability/technology

2. Quality Premiums

During interviews, users were questioned as to whether they would be prepared to pay a higher price for a higher quality of service. User reactions to this question are shown in Exhibit IV-4.

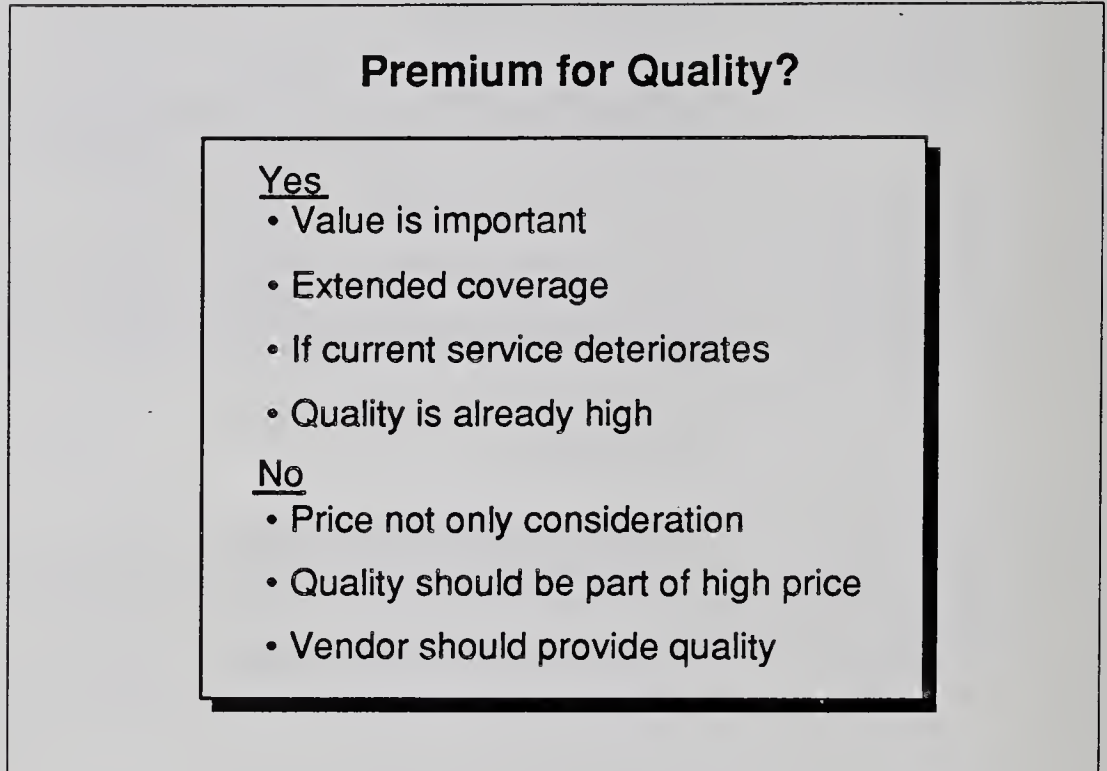
User reactions to paying a premium price for premium service were heavily polarised. About 50% of users indicated that they would consider doing so under specific circumstances, and 50% gave a negative answer.

Specific conditions under which users would consider premium service are as follows:

- In cases where the vendor extended the daily hours of service coverage, for example, to cover a full prime shift or to cover multiple shifts
- If guarantees were given relative to specific levels of system availability and performance, or if current levels of service deteriorate
- Provided the additional quality level could be demonstrated by measurable improvements in service level
- If improvement in value to the user were quantified in specific terms

Negative user reaction was based on the premise that service prices are already high and that in return for current prices, equipment vendors had a responsibility to provide high-quality service. The issue of negative user reaction to premium service was related less to quality levels and more to value, suggesting that equipment vendors need to provide value in return for the high prices already charged. Many users expressed the view that price is not the only consideration when examining service price/value.

EXHIBIT IV-4



C

Vendor Differentiation Exhibit IV-5 illustrates user ratings of aspects considered when selecting a service vendor.

Quality of service is rated highest overall in importance when choosing a service vendor. User importance ratings for quality of service were 9.0 in the U.S. and 8.5 in Western Europe, on a scale of 0 to 10. Other factors that closely relate to quality and rated as being of high importance are:

- Guaranteed system availability
- Technical expertise
- Guaranteed availability of spare parts
- Response time

Another important factor that users consider when selecting a service vendor is the reputation of the service vendor. This factor was given an importance rating of about 7.6 overall on a scale of 0 to 10.

The price of a vendor's service rates third in the list of vendor selection factors, with an importance rating of 6.9 in the U.S. and 7.2 in Western Europe, on a scale of 0 to 10. Of more significance is the difference in importance ratings of quality and price—a relatively wide margin for both the U.S. sample and the Western European sample—which shows the importance of quality over price.

Service vendor ability to provide other services was rated relatively low by users. The ability to provide other services or to service other products was given an importance rating by users of around 5.9 on a scale of 0 to 10.

EXHIBIT IV-5

User Service Vendor Selection Criteria

Factor	U.S. Sample		Western Europe	
	Importance	SE	Importance	SE
Price	6.9	0.1	7.2	0.1
Service quality	9.0	0.1	8.5	0.1
System availability	8.5	0.1	8.5	0.1
Spare parts availability	8.7	0.1	7.9	0.1
Technical expertise	8.9	0.1	8.1	0.1
Response time	8.6	0.1	8.2	0.1
Software support	7.1	0.2	7.8	0.1
Ability to provide other services	5.6	0.2	6.0	0.1
Contract flexibility	6.4	0.1	6.8	0.1
Ability to service other products	5.3	0.2	5.7	0.1
Vendor reputation	7.6	0.1	7.6	0.1

SE = Standard error of the mean

D

Price Increases and User Satisfaction

Exhibit IV-6 illustrates the service price increases that users claim to have received overall during 1989, and indicates the level of user satisfaction with price.

The highest percentage of users reporting price increases was in the large systems segment, where 53% of the users reported price increases averaging 7.9%. The users reported being fairly satisfied with the price that they pay for service, with a mean satisfaction rating of 7.2. Almost half of the large systems users also reported price increases for systems software support, an average of 11.7% increase. Users paying these increases for support were less satisfied with price, giving a rating of 6.8.

In the midrange systems sector, 35% reported price increases for hardware service, an average of 12.4%, yet the price satisfaction level was still fairly high, at 7.0. Systems software support again showed a higher price increase and lower satisfaction with the price paid for support.

In the Western European large systems sector, user satisfaction with price was quite low. Price increases for equipment maintenance in this sector were lower than those in the medium and small systems sectors, but represent an overall increase of almost 40% higher than the overall level of European inflation.

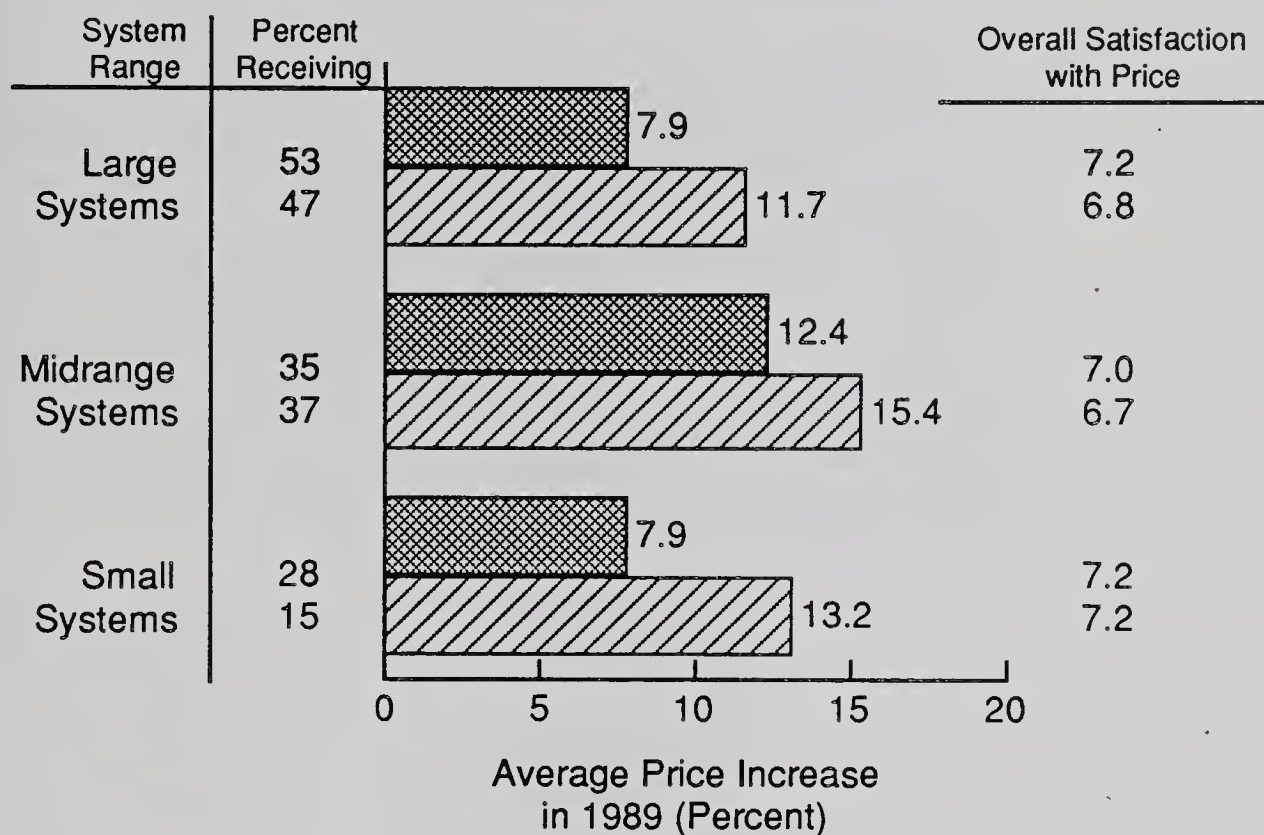
In the small systems segment, user satisfaction with service price could be described as moderate. Price increases for equipment maintenance in this sector equate to about 60% higher than overall European inflation.

Price increases for systems software support are similar in all system size sectors—about twice the overall European rate of inflation.

One significant characteristic that emerges from analysis of user price increases is that only approximately 50% of users in the U.S. and in Western Europe claim to receive regular annual service price increases.

EXHIBIT IV-6

1989 Price Increases and User Satisfaction U.S.



Hardware Service
 Systems Software Support

Sample size: 259

1. Industry Sectors

Exhibit IV-7 illustrates 1989 service price increases reported by users in the U.S. in eight industry sectors and their satisfaction with the price paid for service and support.

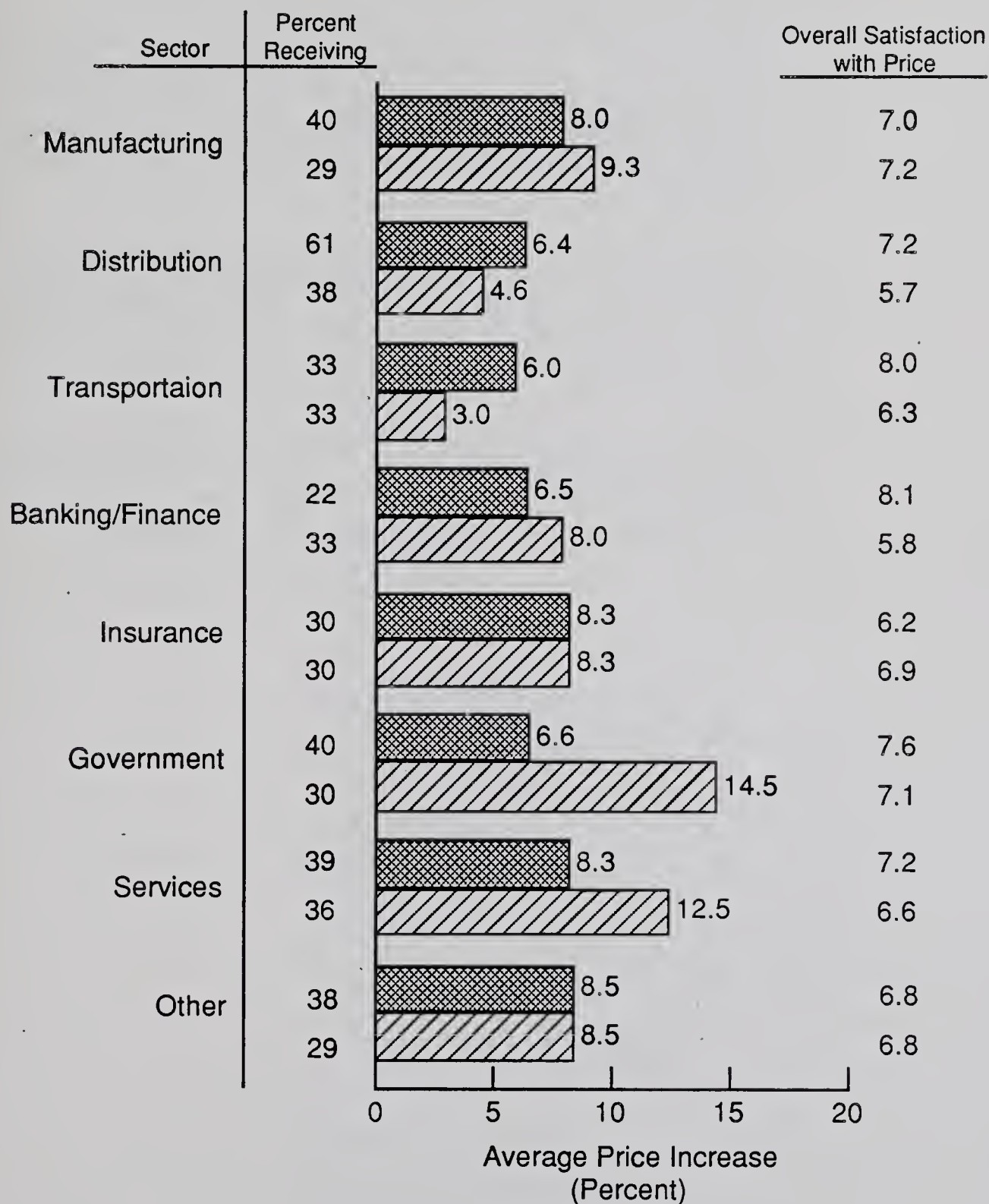
Vendors are advised to be cautious when deciding future service price increases in the following industry sectors, where user satisfaction with service price has reached—and in some cases slightly exceeded—the level of real dissatisfaction (satisfaction rating of less than 7.0).



- Insurance: the 1989 price increase averaged 8.3%, one of the higher price increases, with users reporting a satisfaction with price of only 6.2 and 6.9 for software on a scale of 0-10.
- Other Industries: the 1989 price increases reported averaged 8.5%, with users satisfaction with price rating 6.8.

In the Western European manufacturing sector, 1989 price increases exceeded overall European inflation levels by about 60% for equipment maintenance, and 2.3 times for software support. The transportation sector 1989 price increases exceeded overall European inflation levels by about 35% for equipment maintenance, and were twice the level of inflation for systems software support. Government and public utilities price increases were broadly similar to those in the transportation sector. However, this sector appears to be rather price sensitive, in that about 9% of users indicate a willingness to change to independent maintenance for a price reduction of between 0% and 10%, and a further 3% would change in return for a price reduction of between 11% and 20%. This sector is therefore considered to be subject to high risk of further penetration by independent maintenance vendors.

EXHIBIT IV-7

Price Increases and User Satisfaction by Industry



 Hardware Service
 Systems Software Support

2. Installed Base

Exhibit IV-8 illustrates 1989 service price increases reported by users of six vendors' equipment, and the levels of user satisfaction with price.

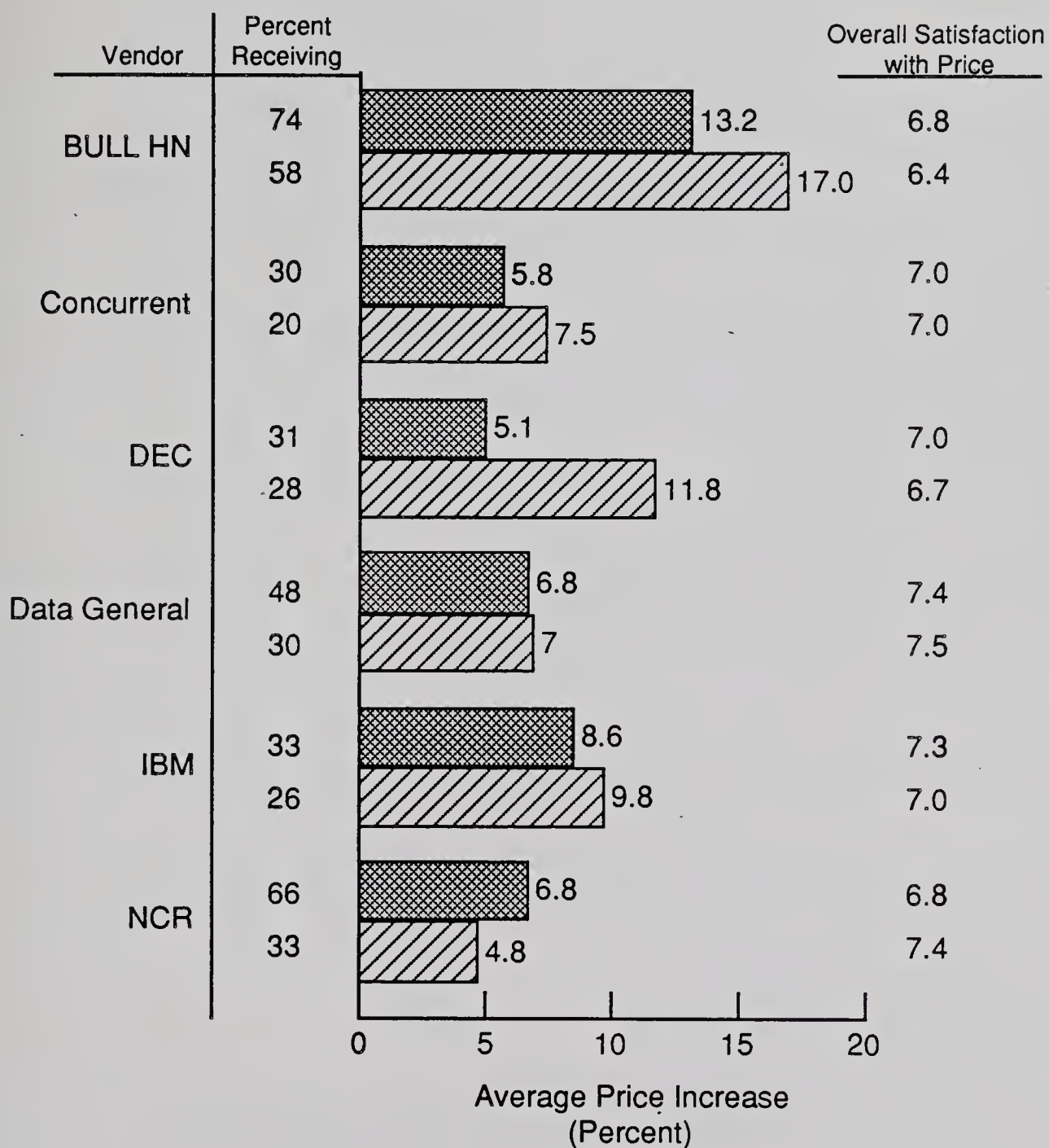
In the U.S., the users of BULL HN equipment reported the highest average price increases of 13.2% for hardware service and 17.0% for systems software support. They also reported the lowest satisfaction with the prices paid for service and support, 6.8 and 6.4 respectively. Users of Data General equipment had the highest satisfaction ratings with price increases, and reported increases in the midrange of 6.8 and 7.0.

In Western Europe, users of equipment supplied by Digital reported 1989 price increases for equipment maintenance that exceeded the overall European level of inflation by about 80%. User satisfaction with maintenance prices has reached dissatisfaction. Digital may need to be cautious when considering future price increases in Western Europe.

NCR users indicate real dissatisfaction with equipment maintenance prices. NCR users, however, indicate receiving 1989 maintenance price increases that exceed overall European inflation levels by only about 10%, suggesting that service prices are already relatively high.

EXHIBIT IV-8

Price Increases and User Satisfaction by Vendor



Hardware Service
 Systems Software Support

E

User Comments
on Pricing

Exhibit IV-9 gives a selection of the comments made by users in the U.S and Western Europe regarding their views and opinions on vendor service pricing and value.

EXHIBIT IV-9

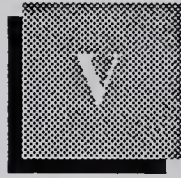
User Comments on Service Pricing

- Service is too expensive considering the equipment is very reliable.
- Vendor price increases always seem higher than inflation levels (or at least equal to), even with increasing reliability of equipment.
- Service is expensive and there is a marked shift towards loading the prices for service on older equipment.
- Value for money is not provided. We pay for service cover between 0830 and 1800 hours. But we can only get an engineer on-site between 1100 and 1500 hours.
- Expensive and not very good value; we cannot always wait for vendor response so we fix smaller problems in-house.
- High cost does not always provide value for money. I accept that service is not cheap to provide, but I do expect value for money.
- Software support is expensive; it increases by more than inflation each year.
- Service is necessary, expensive—but worth it.
- Remote support can address the issue of engineer availability.
- A "Curate's Egg"—good in parts.
- Looking at lower service cost products—AS/400.
- Still trying to sort out results of a supplier merger which has caused inconsistency in pricing.
- We currently pay about \$20,000 per year for service. A contemplated change to AS/400 would reduce this to about \$33,000 over a five-year period.
- Software support is excellent value for money
 - Good hotline and vendor skills
 - Good relationships with vendor's staff
- Service provides a high percentage of vendor profits.
- The vendor seems to charge for software support depending on the equipment installed. For example, the user pays more for larger machines, even if using the same software.
- When charging for hardware maintenance, the vendor needs to convince the user of the relationship between service used and the price charged. Software support pricing should be unbundled and the vendor should charge for use, not the full range.
- Software support is, excellent, as is the backup service provided. Hardware is very reliable; the vendors record keeping and logging is very good.



Vendor Challenges and Opportunities





Vendor Challenges and Opportunities

This chapter of the report focuses on the perspectives, developments, risks and opportunities from the vendor's side of the service pricing environment:

- Pricing issues and pressure factors
- How vendor pricing and service strategies will likely evolve in the future
- Vendor strengths and strategies for addressing competition
- The competitive risk to equipment vendors from increased market penetration by independent maintenance
- Opportunities for service price increases in a number of market sectors

A

Pricing Issues

1. Key Vendor Issues and Trends

a. Hardware Service

The key issues and trends relating to hardware service and systems software support are illustrated in Exhibit V-1.

In the U.S., the main vendor issues concern staying competitive while still maintaining profitability. As service vendors compete vigorously for the service business, profitability may suffer in order to get the service business. The cost of service must be met, at the very least, when bidding these sites.

Other issues facing U.S. vendors are dealing with increased reliability of the hardware and users' perceptions of price and value. As the reliability of hardware increases, users have a difficult time understanding the price

for hardware service and question the value they are receiving for their money. These perceptions make it imperative for the service vendor to call upon marketing skills to justify the price of service after the increased reliability has been included in price calculations.

In Western Europe, service equipment vendors are almost equally divided in their opinions about hardware maintenance price trends, expressing equal amounts of pessimism or relative optimism.

Relative optimism relates not to the fact that vendors believe service prices will rise, but that they have reached a threshold beyond which they are unlikely to fall much further. These views of relative optimism are supported by the following justificative comments made by equipment vendors:

- Price increases below the prevailing level of inflation cause many fewer problems in terms of user reaction, and can be supported and justified more easily.
- Users are willing to pay for good quality service. This view tends to be tempered somewhat by a significant user view that equipment vendors have an obligation to provide high-quality service in return for the high prices already charged. An approximately equal number of users would consider higher payments, but only under specific circumstances, where a measurable improvement in service value was achieved—for example, improved response times.
- As the cost of computer equipment continues to fall, the price charged for service will increase in relative terms. Also, certain market sectors are less price sensitive, for example workstations.

Vendor pessimism that maintenance prices will continue to fall was supported by a number of arguments, which included:

- The effects of the current economic environment, and now the added pressure of increasing oil prices as a result of the Gulf conflict, will likely force lower prices as a result of a user drive for improved business efficiency.
- Executive involvement in computer operating costs in users' organizations is resulting in operating costs being much more closely monitored, and subject to a higher degree of examination. This higher level of involvement has also increased the degree of service cost negotiation, and vendors claim that users are now more aware that service costs are negotiable.

- Increased equipment reliability coupled with user awareness of high servicing costs, is causing users to review the relative merits of contracted service versus a time and materials approach. This factor is more important in the midrange and small systems sectors of the market.

Although competition is still a relatively important issue in Western Europe, it is no longer the primary issue that it was in 1989. Competition is now claimed by equipment vendors to arise from independent maintenance companies, and also from other equipment vendors through multivendor offerings. Equipment vendors consider that the introduction of open systems will intensify competition for maintenance contracts, and due to the standardization factor, vendor differentiation could be reduced solely to pricing.

b. Systems Software Support

The U.S. vendors reported that the issue of bundling versus unbundling of systems software support was of main concern. Many times support has been included in the software fees or combined with hardware fees, thus becoming transparent to the user. When the user examines the true price of service with all of the components broken out, there is a value perception problem. Users may not realize the true cost and value of service because they are not familiar with all of the pieces that make up the service and support package. Until users become more educated in the price of software support, vendors will need to address this issue when bidding service sites.

Cost of service was also an issue mentioned by the vendors as being of concern. While trying to provide comprehensive service and support solutions to users, vendors are facing the problems of trying to support proprietary software and sophisticated custom software. These situations increase the cost of providing support and limit the amount of support that the service vendor is able to provide.

In highlighting the key issues and trends related to systems software support in Western Europe, equipment vendors are less polarized in their views than when discussing hardware service.

Just over one-half of the equipment vendors interviewed offered the opinion that users are more willing to pay for good quality systems software support. The reasoning behind this view is that the equipment vendors quite correctly assess that software is more important and more difficult to support. One counter argument to this view is that user satisfaction with service price is very similar generally, irrespective of whether for hardware service or systems software support. A further argument opposing the equipment vendors' view is that although users expect higher price increases for systems software support, this expecta-

tion does not necessarily infer willingness, but more likely a degree of resignation.

The equipment vendors highlighted a trend toward unbundling systems software support. Some vendors, notably IBM, ICL and, to a degree Unisys, bundle software support with the software licence fee. These and other vendors are seeking to make systems software support not only more visible, but also to make it chargeable. The move toward unbundling involves separating out various elements of systems software support that were either bundled or free of charge, and levying a charge for these services.

The comments of users seeking value in software support can be supported by user research, which suggests that user perception of value is higher for systems software support than for equipment maintenance. Two opportunities highlighted by equipment vendors are:

- The needs of less sophisticated users present vendors with the opportunity to provide enhanced value support. Vendors commented that these users are, however, also more demanding.
- There is potential to evolve a structured pricing approach to systems software support that involves the competence of the user. This approach would focus on the competence of the user, and where deficiencies were apparent, these could be supplemented by an added-value vendor service.

Shortage of skilled resources still constitutes a problem for service vendors. Vendors are continually competing with users for scarce software skills.

EXHIBIT V-1

Key Vendor Issues and TrendsU.S.

- Hardware service
 - Competitiveness
 - Profitability/cost of service
 - Increased reliability
 - Perceived price/value
- Systems software support
 - Bundled versus unbundled
 - Cost of service
 - Perceived value

Western Europe

- Hardware service
 - Pessimism that prices will continue to fall
 - Optimism that prices have leveled out
 - Competition
- Systems software support
 - Users willing to pay for good service
 - Trend toward unbundling
 - Users looking for value
 - Less pressure on pricing
 - Shortage of skills

Sample size: 26

2. Pricing Pressures

Factors that equipment vendors consider to be creating pressure on service prices are listed in Exhibit V-2.

The increased reliability of hardware is putting pressure on service vendors to justify their service prices to the users. The vendors are seeing user confusion regarding the increased reliability of the hardware, extended warranties, and lower list prices. It is very difficult from the vendor's perspective to justify to users the prices that they must charge for service.

Pressure on pricing caused by market competition is considered by service vendors another critical factor. This competition arises from independent maintenance companies that are relatively aggressive in bidding for contracts as a primary business focus, and also from equipment vendors that have entered the independent maintenance market through multivendor service offerings. This two-way competitive thrust has intensified competition in a market that was already becoming very competitive.

Equipment vendors claim that rising inflation is increasing costs through higher labor rates and increasing overhead. Also, the increased modularity of equipment resulting from technological development is driving up the cost of spare parts. These factors create a further conflict for equipment vendors, in that market forces are creating pressure on prices and internal factors are causing pressure on costs as a result of the need to maintain margins.

Product quality is creating pressure on prices, mainly maintenance prices, as a result of increased reliability. Users tend to take the view that as equipment reliability improves, service costs should decrease. This is an opportunity for equipment vendors to inform users of the fact that as equipment technology improves, the costs of supporting the equipment pro rate are likely to increase, due to the cost of spares and inventory investment.

EXHIBIT V-2

Vendor Pricing—Pressure Factors

- Increased reliability
- Extended warranties
- Lower list prices
- Independent maintenance competition
- Other vendor competition
- User requirement for value
- Rising service costs
- User quality needs

Sample size: 26

Multiple responses allowed

B**Pricing Strategy
Evolution**

Exhibit V-3 illustrates the likely evolutionary path that vendor strategies will take in order to regain initiative in the customer services market.

In the environment that currently exists within the customer services market, equipment vendors are tending to adopt a position of entrenchment. This defensive or protectionist posture is due to a number of market forces that are creating pressure on revenues and margins:

- Equipment vendors are heavily dependent on equipment maintenance for between 75% and 80% of customer services revenues.
- Growth of the equipment maintenance sector of the customer services market has slowed to about inflation levels and is indicating future decline in terms of absolute size.
- Competitive pressure, and pressure from users, is forcing service prices down.

Against this background of economic decline in the customer services market, vendors in the short term are concerned primarily with protecting existing revenue bases. These conditions have created a need to balance revenue and margin requirements with the need to remain competitive.

Independent maintenance companies' primary business is equipment maintenance. In the current equipment maintenance market, they have

begun to realize that although their maintenance revenue growth is much higher than the market growth, revenue growth and profitability can be mutually exclusive elements. In brief, some independent maintenance companies are feeling the pressure for which their own aggressive policies have been partly responsible.

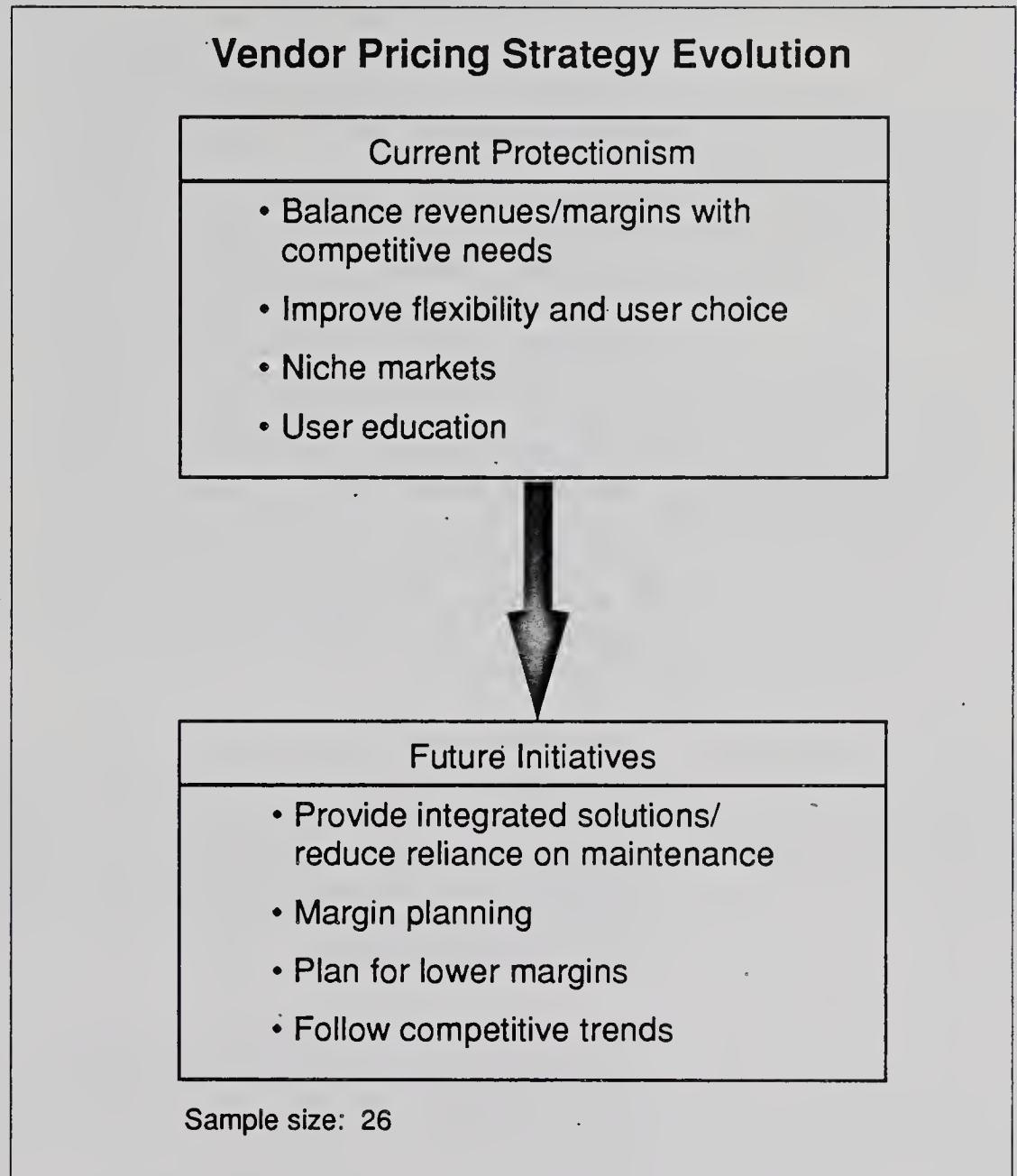
Equipment vendor strategies to redress their current defensive position center on using one of their major strengths to counter a major weakness in the competitive position of independent maintenance companies' software support capability.

The primary strategy aimed at regaining the initiative for the equipment vendors is to capitalize on their support capability through leverage on software support. By developing professional and other services, such as systems operations (facilities management) and disaster recovery services, equipment vendors can reduce their reliance on maintenance revenues. In adopting this approach, equipment vendors will be able to develop integrated service solutions that will enable them to provide a total service solution to users.

The independent maintenance organizations must also find a way to develop this system software support capability. Many IMO's are considering alliances and service subcontracting relationships as a means of providing the software support required by users and still retaining account control.

Whether or not independent maintenance companies are able to match the equipment vendors' service solution, orientation remains an open question. However, new forms of competition may emerge. For example, major professional services vendors, such as Andersen Consulting, through their existing skills and acquisition of maintenance capability could provide a similar level of service.

EXHIBIT V-3

**C****Competitive Position 1. Strengths and Weaknesses**

Opinions expressed by equipment vendors identifying their relative competitive strengths and weaknesses are illustrated in Exhibit V-4.

The major strengths equipment vendors have identified concern their strength in depth, including:

- The support and quality capability that is available to be focused on users. This capability is primarily directed towards the service and support of the vendor's own products. Therefore, equipment vendors believe that the extent of their knowledge and depth of experience is considerable. The degree of capability differs from that of the indepen-

dent maintenance vendors, whose expertise is spread more thinly so as to cover a wide range of many manufacturers' products. The independent's capability is directed mainly towards maintenance, and lacks the backup provided by the equipment vendor's design and quality organizations.

- The credibility and financial resources of a large organization, which provide the user with a high degree of security due to financial and organizational stability and longevity. Also, due to financial stability, equipment vendors are resilient under transient market conditions, and retain the capability of resolving product-related problems.
- Experience and knowledge of their own products at a level which is unlikely to be matched by any competitor.

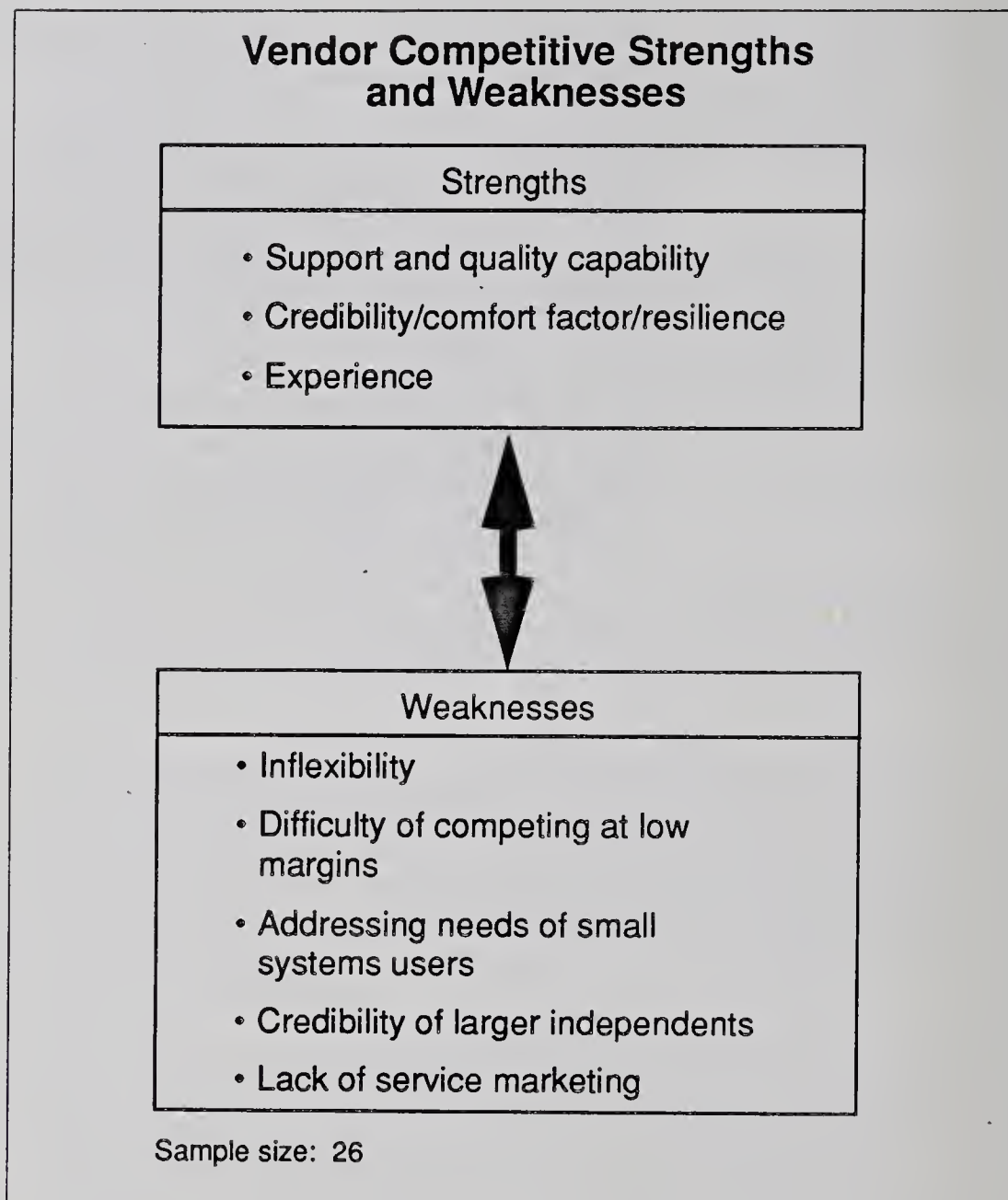
The equipment vendors, while believing that their strengths outweigh any weaknesses, nonetheless identify a number of weaknesses in areas where competitors—mainly independent maintenance companies—can gain advantage.

- Due to equipment vendors' size, a degree of inflexibility is apparent. This inflexibility concerns the ability to be as responsive as is sometimes required in addressing the specific or special needs of users, particularly the needs of smaller users. Servicing of a large installed base prohibits a policy of total flexibility, which in the past has been one of the key strengths of independent maintenance companies seeking to claim market share.
- Larger organizations in general have higher overhead costs, and therefore need higher price margins to sustain this cost base. The independent maintenance companies tend to avoid high overhead costs, as these mainly result from the need to support investments in new technology, product development and a complex organizational infrastructure. Higher overhead costs create difficulties for equipment vendors when competing for low-margin business.
- Servicing the needs of small system users often requires special consideration, due to their lack of computer operational knowledge and experience. Equipment vendors have set up VAR/dealer networks in order to address these needs. However, in INPUT's opinion and in the opinion of some users, equipment vendors have not always ensured that the dealer support or commitment is sufficient. The result of these delinquencies has made dealer user bases vulnerable to competition. There are now signs that equipment vendors are taking steps to ensure adequate dealer support, for example Unisys, through their dealer "A La Carte" services. Another example of an equipment vendor developing a series of dealer support capabilities is Hewlett-Packard. HP has developed the HP Support Provider, HP Support Subcontracting, and

HP Support Reseller options to provide more service assistance to its distribution channels.

- Equipment vendor credibility is now being matched, to a degree, by the larger independent maintenance companies. Examples are provided by Granada Computer Services, Thomainfor and Bell Atlantic Business Systems Services (Sorbus), TRW, and Novadyne (McDonnell Douglas Field Service Company), all of whom are relatively large U.S and pan-European companies.
- Lack of service marketing by equipment vendors has contributed to the value of equipment vendor service not being fully exposed to or promoted by users. This factor was highlighted by some users. A previous study published by INPUT recommended that about 3% of customer services revenue should be invested in service marketing programs.

EXHIBIT V-4



2. Competitive Strategies

Exhibit V-5 identifies strategies that equipment vendors are adopting to deal with the threat posed by independent maintenance vendors taking an increasing share of the customer services market.

In overall terms, equipment vendors are wisely intending to avoid direct confrontation with the independent maintenance companies. To do so would create even more pressure on pricing, the subsequent “auction” conditions forcing prices lower and lower, as vendors bid for contracts head to head. As reported previously, the equipment vendors are taking a more defensive position.

Two major strategies are being implemented to address the threat of independent maintenance:

- Forming alliances and partnerships, mainly with other equipment vendors rather than independent maintenance companies. There is an understandable reluctance among some equipment vendors to develop partnerships with independent maintenance companies, primarily as a defensive strategy aimed at preventing access to user sites.
- A significant proportion of equipment vendors are starting to implement plans to capitalize on their overall support capabilities in order to regain competitive advantage. These plans include continuing to develop and promote multivendor services, and also to focus on developing services around their software support capability. Software support is a major weakness of independent maintenance companies. It is planned that these service developments will evolve towards total solution service or integrated service solutions, and will comprise a mixture of equipment maintenance, software support, professional services, and other services.

EXHIBIT V-5

**Vendor Strategies for
Dealing with Threat of
Independent Maintenance**

- Alliances/partnerships
- Service packaging
- Provide total support solutions
- Improve technical/service skills
- Definitely not confrontation
- Confrontation

Sample size: 26

Multiple responses allowed

D**Competitive Risks**

Exhibit V-6 highlights the risk in the U.S. and Western Europe to equipment vendor maintenance revenues from further market penetration by independent maintenance companies.

1. U.S. Overall

About 16% of the users in the U.S. reported a willingness to change to independent maintenance for a price reduction of 1% - 20%. The 6% of the users that would be willing to change to IMO service for a discount of less than 10% are considered to be a very high-risk category for the move to IMO service.

Another 16% of the users interviewed could be considered in the medium- to low-risk category, willing to change to IMO service for a price discount of between 21% and 30%.

The 16% of the users that reported being uncertain or didn't know if they would be willing to change based on discount could be considered a further risk to the equipment vendor service market, as under the right conditions they may move to IMO service.

2. Western Europe Overall

Overall, about 6% of users state a willingness to change to independent maintenance for a price reduction of between 1% and 20%. Willingness among users to change for a price reduction of less than 20% should be considered high risk. In the event that a further 6% of users' maintenance business in Western Europe is captured by independent maintenance companies, this would result in a further loss to equipment vendors of almost \$1 billion of maintenance revenues in Western Europe.

Users requiring a price reduction of between 21% and 30% to consider a change of maintenance vendor are considered to be medium/low risk.

A further factor of risk is considered the relatively high percentage of users in the don't know/uncertain category, about 14% overall in Western Europe. These users should be considered what would in political terms be the "floating voters."

EXHIBIT V-6

Threat of Change to Independent Maintenance by System Range

System Range	Users Willing to Change (Percent)					
	Price Discount Level (Percent)					
	1-10	11-20	21-30	Over 31	No Real Interest	Don't Know/ Uncertain
<i>U.S.</i>						
Large systems	1	13	24	21	23	18
Midrange systems	0	9	18	18	38	17
Small systems	19	6	7	42	13	13
<i>Western Europe</i>						
Large systems	2	4	20	0	66	8
Midrange systems	1	6	14	0	68	11
Small systems	0	5	18	0	54	23

Sample size: 259 - U.S. 732 - W. Europe

3. Industry Sectors

Exhibit V-7 highlights the risk to equipment vendor maintenance revenues from further market penetration by independent maintenance companies in eight industries in the U.S.

Industry sectors considered to be at high risk from further market penetration by independent maintenance companies are as follows:

- Distribution represents a high risk, where 20% of the users interviewed would be willing to change to IMO service for a price discount of less than 20%.
- The manufacturing sector also presents high risk, where 5% of the sample would change for a discount of less than 10% and an additional 11% would go to IMO service for discounts of between 11% and 20%.

- The service sector presents a high risk, 4% of the sample stating that they will go to IMO service for discounts of less than 10% and an additional 16% requiring a discount of 11% - 20%.

The government sector appears to be at a low risk of penetration by IMO service, with 49% of the users exhibiting no real interest in discounts to switch to independent service.

In Western Europe, the government and public utilities sector represents a relatively high risk. About 12% of users would be willing to change to independent maintenance for a price reduction between 0% and 20%. The manufacturing sector also presents a risk, where about 9% of users would be willing to change to independent maintenance for a price reduction of between 11% and 20%.

One industry sector in Western Europe considered to be a low risk from further penetration by independent maintenance companies is the services sector. In this sector, only 2% of users would be willing to change to independent maintenance for a price reduction of between 11% and 20%.

EXHIBIT V-7

Threat of Change to Independent Maintenance,
by Industry—U.S. Sample

Industry	Users Willing to Change (Percent)					
	Price Discount Level (Percent)					
	1-10	11-20	21-30	Over 31	No Real Interest	Don't Know/ Uncertain
Manufacturing	5	11	14	29	30	11
Distribution	0	20	10	50	10	10
Transportation	0	50	0	0	50	0
Banking and Finance	0	17	0	0	50	33
Insurance	0	0	43	14	43	0
Government	0	12	12	9	49	18
Services	4	16	20	12	40	8
Other	5	3	27	28	27	10

4. Installed Base

Exhibit V-8 highlights the risk to specific vendors' installed base from further market penetration by independent maintenance companies. Vendors whose installed base is considered to be at high risk from further market penetration by independent maintenance companies are as follows:

- BULL: 21% of the users interviewed stated a willingness to change to IMO service based on discounts of between 11% and 20%.
- NCR: 14% of the users interviewed would be willing to switch to IMO service for discounts of less than 20%.

Relatively low risk is shown in the Data General sample, where 65% of the users exhibited no real interest in switching to IMO service based on discounts.

In Western Europe, 9% of BULL HN equipment users would be willing to change to independent maintenance for a price reduction of between 0% and 20%, with almost half of these willing to change for a much smaller price reduction. About 8% of the Digital users reported being willing to change to independent maintenance for a price reduction of between 11% and 20%.

Vendors whose installed base in Western Europe is considered at very low risk from further penetration by independent maintenance companies are Hewlett-Packard, ICL and NCR, where a price reduction of over 20% would be required to persuade users to change to independent maintenance.

EXHIBIT V-8

Threat to Vendor Installed Base of Independent Maintenance—U.S. Sample

Vendor	Users Willing to Change (Percent)					
	Price Discount Level (Percent)					
	1-10	11-20	21-30	Over 31	No Real Interest	Don't Know/ Uncertain
BULL HN	0	21	37	16	5	21
Concurrent	0	0	29	29	42	0
DEC	0	12	21	25	42	0
Data General	0	10	5	15	65	5
IBM	0	12	6	19	49	14
NCR	5	9	19	29	19	19

E

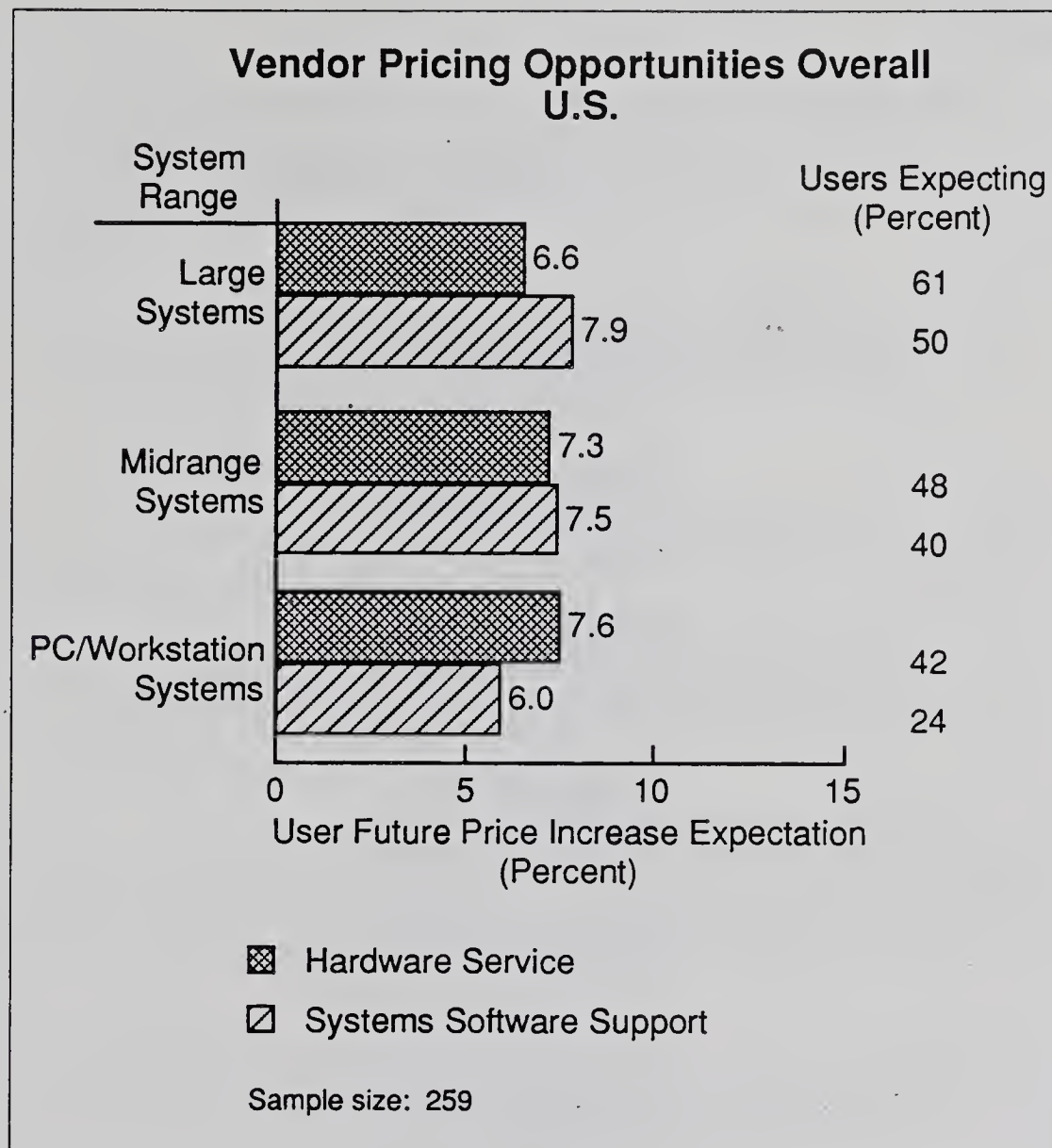
Pricing Opportunities 1. U.S. Overall

Exhibit V-9 presents the overall mean price increases that users are expecting to pay in the future. Overall, users expect to pay more for systems software support for large and midrange systems—anywhere from .2% to 1.3% more than for hardware service. In the PC/workstation system size range, users expect to pay less for software support than for hardware maintenance.

2. Western Europe Overall

User expectation is that price increases for systems software support will be higher than those for equipment maintenance. However, the overall user price increase expectation is that price increases will exceed the overall average inflation figure for Western Europe, which is around the 5% level. As user satisfaction with service price is generally at a level which suggests user concern, user expectation of above-inflation-level price increases likely suggests more a degree of resignation than an opportunity for vendors.

EXHIBIT V-9



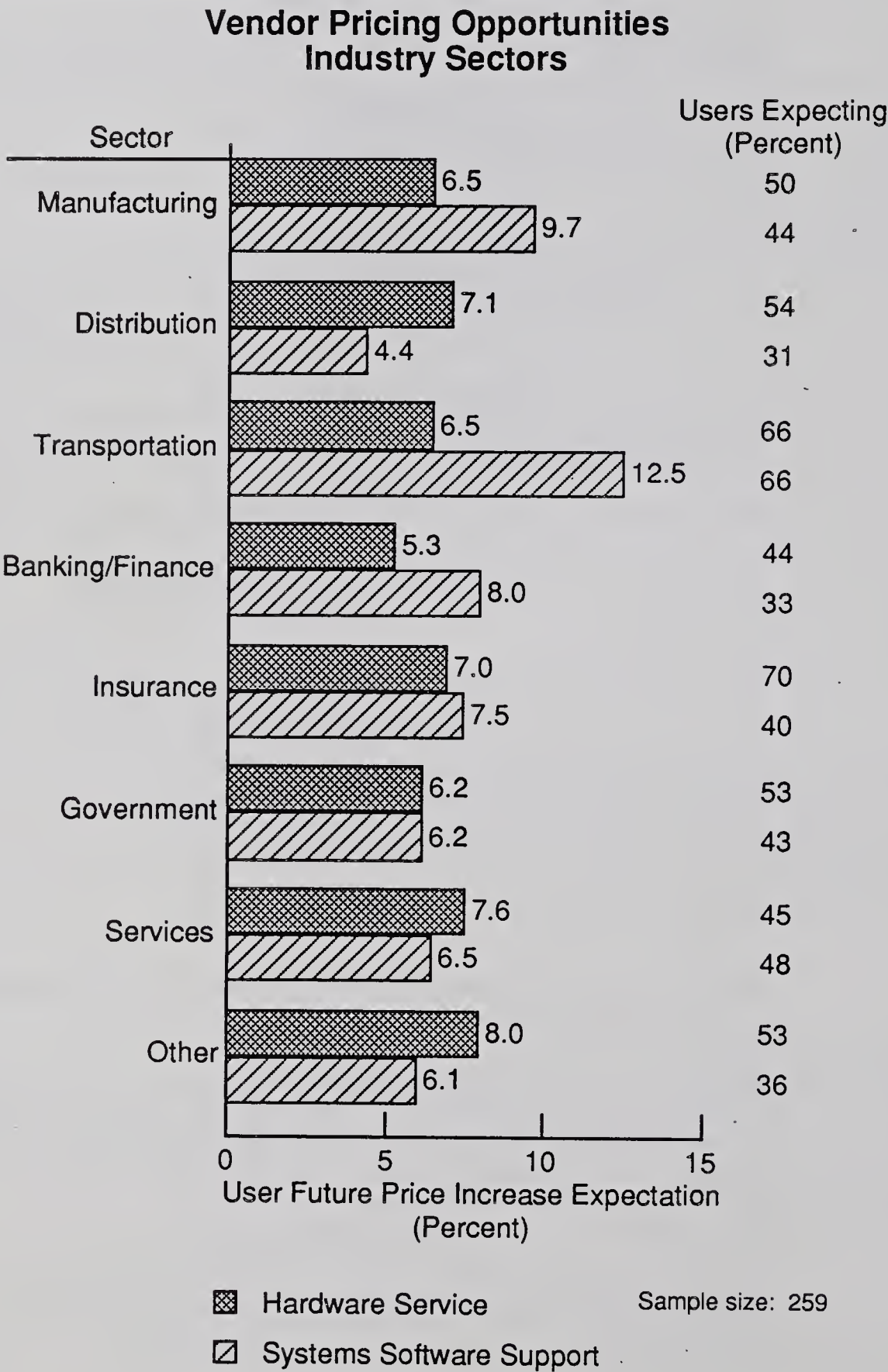
3. Industry Sectors

Exhibit V-10 illustrates user expectation for future service price increases in U.S. industry sectors.

The highest price increases for hardware service are expected by the other industry category (which includes communications, medical, education and other industries), where 53% of the users expect to pay an 8.0% increase for their hardware service in the future. The services industry also expects to pay a 7.6% increase.

Overall, users expect a higher increase in systems software support than in hardware maintenance. Exceptions to this are in the distribution, services and other industries, where increases are expected to range from 0.9% to 2.7% less than the increase for hardware service.

EXHIBIT V-10



In Western Europe, vendor opportunities related to future price increases for service in various industry sectors include opportunities in the distribution, banking and finance, and insurance sectors for price increases slightly above inflation levels, about 20% higher. User satisfaction with service prices in these industry sectors is moderate and user expectation is that price increases will be about 60% above the prevailing rate of inflation.

Risks in Western Europe include relatively high user dissatisfaction with service price in the manufacturing, transportation and government and public utilities sectors.

4. Installed Base

Exhibit V-11 illustrates user expectation for future service price increases related to vendors' installed bases.

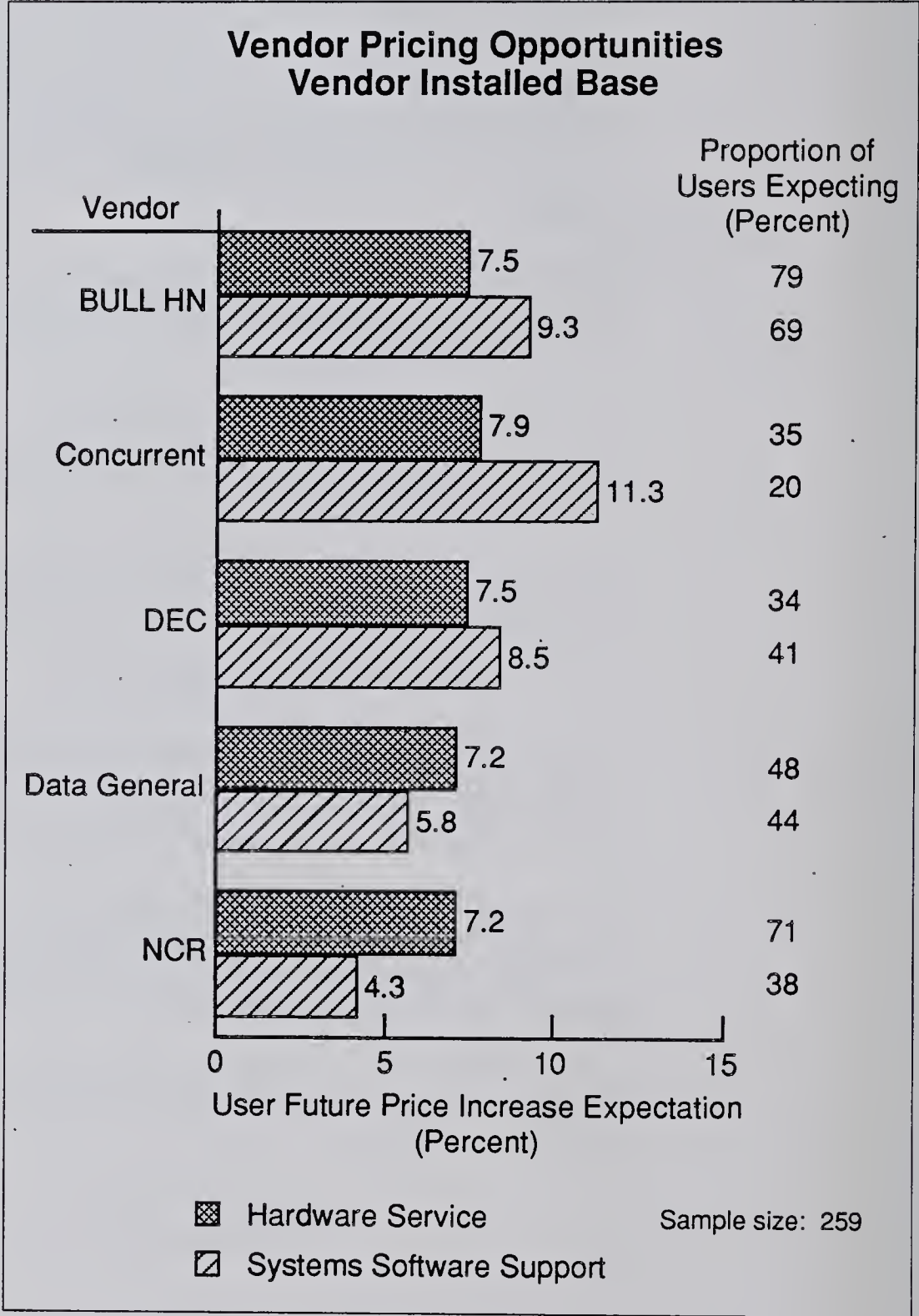
In the U.S., Concurrent users are expecting the highest increase for hardware service, but with a fairly small sample expecting the increase (35%). The BULL HN sample expects increases to average about 7.5%, with 79% of the sample expecting increases.

Overall, Concurrent users are also expecting the highest software support increase, 11.3%. BULL and DEC users also expect substantial increases of 9.3% and 8.5%, respectively. NCR and Data General users expect software support to increase at a slower rate than hardware service.

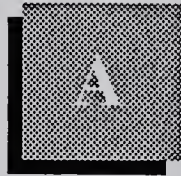
In Western Europe, DEC users are expecting the highest hardware service price increase, an average of 9.2%. IBM is just below this, with 50% of the sample expecting increases averaging 8.4%, and BULL follows close behind with a mean increase of 7.8%.

Only DEC users are expecting a smaller increase for systems software support, with an increase of 8.5% expected for software support and 9.2% for hardware service.

EXHIBIT V-11



Appendixes



User Price Trend Data—Industry Sector Analysis

The objective of this appendix is to present data related to user-reported service price changes in 1989, user expectation of future price changes, and the percentage of users that claim to receive (or anticipate receiving) these price changes. Data presented is segmented by industry sector.

EXHIBIT A-1

User-Perceived Price Change Data 1989 Actual and Future—U.S. Overall

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	7.9	6.6	7.6	7.3	7.9	7.6
	Sample reporting	51	60	36	52	15	22
	Sample reporting no change	21	9	38	27	27	16
	Average price decrease (Percent)	9.6	10.3	18.4	17.9	20.4	15.4
	Sample reporting	4	3	7	7	7	7
Systems Software Support	Average price increase (Percent)	9.8	7.9	9.1	7.5	13.2	6.0
	Sample reporting	45	49	27	44	8	13
	Sample reporting no change	18	15	39	29	27	17
	Average price decrease (Percent)	5.0	-	40.0	15.0	40.0	30.0
	Sample reporting	1	0	2	1	1	1

Sample size: 259

EXHIBIT A-2

User-Perceived Price Change Data
1989 Actual and Future—Manufacturing Sector

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	7.1	6.5	10.8	6.6	5.8	6.5
	Sample reporting	21	22	8	13	2	4
	Sample reporting no change	3	1	15	11	11	7
	Average price decrease (Percent)	8.0	6.0	11.7	27.5	11.0	10.0
	Sample reporting	2	1	3	2	3	3
Systems Software Support	Average price increase (Percent)	9.3	10.9	11.3	9.6	6.0	6.4
	Sample reporting	17	18	4	10	2	6
	Sample reporting no change	5	4	13	9	4	2
	Average price decrease (Percent)	5.0	-	30.0	15.0	-	-
	Sample reporting	1	0	1	1	0	0

Sample size: 78

EXHIBIT A-3

User-Perceived Price Change Data 1989 Actual and Future—Distribution Sector

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	5.0	9.7	8.3	5.0	6.0	6.0
	Sample reporting	4	3	3	3	1	1
	Sample reporting no change	1	1	1	0	0	0
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0
Systems Software Support	Average price increase (Percent)	3.7	2.5	6.0	5.0	-	-
	Sample reporting	3	1	2	3	0	0
	Sample reporting no change	1	3	2	-	1	0
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 13

EXHIBIT A-4

User-Perceived Price Change Data
1989 Actual and Future—Transportation Sector

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	6.0	8.0	-	-	-	5.0
	Sample reporting	1	1	0	0	0	1
	Sample reporting no change	0	0	1	0	1	0
	Average price decrease (Percent)	-	-	-	20.0	-	-
	Sample reporting	0	0	0	1	0	0
Systems Software Support	Average price increase (Percent)	3.0	5.0	-	20.0	-	-
	Sample reporting	1	1	0	1	0	0
	Sample reporting no change	0	0	1	0	1	0
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 3

EXHIBIT A-5

User-Perceived Price Change Data 1989 Actual and Future—Banking and Finance Sector

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	5.0	3.5	-	5.0	8.0	9.0
	Sample reporting	1	2	0	1	1	1
	Sample reporting no change	1	0	2	1	2	0
	Average price decrease (Percent)	-	-	-	-	-	25.0
	Sample reporting	0	0	0	0	0	1
Systems Software Support	Average price increase (Percent)	11.0	11.0	6.5	6.5	-	-
	Sample reporting	1	1	2	2	0	0
	Sample reporting no change	0	0	0	0	1	1
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 9

EXHIBIT A-6

**User-Perceived Price Change Data
1989 Actual and Future—Insurance Sector**

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	11.0	8.3	-	7.5	3.0	4.5
	Sample reporting	2	3	0	2	1	2
	Sample reporting no change	1	0	2	2	0	0
	Average price decrease (Percent)	-	-	4.0	-	10.0	-
	Sample reporting	0	0	1	0	1	0
Systems Software Support	Average price increase (Percent)	8.3	8.5	-	10.0	-	3.0
	Sample reporting	3	2	0	1	0	1
	Sample reporting no change	0	0	3	2	2	1
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 10

EXHIBIT A-7

User-Perceived Price Change Data 1989 Actual and Future—Government Sector

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	6.7	5.9	5.9	6.7	7.3	6.5
	Sample reporting	7	12	5	7	4	2
	Sample reporting no change	11	4	3	2	0	0
	Average price decrease (Percent)	11.3	5.0	2.0	-	-	10.0
	Sample reporting	2	1	1	0	0	1
Systems Software Support	Average price increase (Percent)	16.4	6.3	8.0	5.3	10.0	6.5
	Sample reporting	9	12	2	3	1	2
	Sample reporting no change	5	4	4	3	3	1
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 40

EXHIBIT A-8

User-Perceived Price Change Data 1989 Actual and Future—Services Sector

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	10.3	5.8	7.4	9.8	-	3.3
	Sample reporting	4	5	9	8	0	2
	Sample reporting no change	1	1	5	3	3	1
	Average price decrease (Percent)	-	-	50.0	12.6	-	-
	Sample reporting	0	0	1	4	0	0
Systems Software Support	Average price increase (Percent)	9.3	6.7	14.7	6.6	-	5.0
	Sample reporting	5	5	7	10	0	1
	Sample reporting no change	1	2	6	3	3	2
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

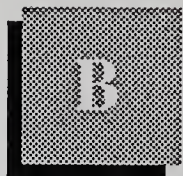
Sample size: 33

EXHIBIT A-9

User-Perceived Price Change Data 1989 Actual and Future—Other Industries

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	10.3	6.9	5.9	7.5	10.2	10.3
	Sample reporting	11	12	11	18	6	9
	Sample reporting no change	3	2	9	8	10	8
	Average price decrease (Percent)	-	20.0	38.0	-	33.3	21.5
	Sample reporting	0	1	1	0	3	2
Systems Software Support	Average price increase (Percent)	6.2	5.3	5.7	6.6	16.7	6.0
	Sample reporting	6	9	10	14	5	3
	Sample reporting no change	6	2	11	12	12	10
	Average price decrease (Percent)	-	-	50.0	-	40.0	30.0
	Sample reporting	0	0	1	0	1	1

Sample size: 73



User Price Trend Data—Vendor Installed Base Analysis

The following exhibits present price change information by individual vendor installed base and by system size. In the case of IBM, all three system sizes are represented in the sample and are presented.

The BULL sample reported the highest systems software support average increase, at 17.0% for 11 users reporting. For the future, this group expects a more moderate support price increase of 9.0%.

Where the price changes seem abnormally high or low, please take note of the sample size reporting the average change.

EXHIBIT B-1

User-Perceived Price Change Data 1989 Actual and Future—Amdahl Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	6.8	6.8	-	-	-	-
	Sample reporting	4	6	-	-	-	-
	Sample reporting no change	7	4	-	-	-	-
	Average price decrease (Percent)	17.5	5.0	-	-	-	-
	Sample reporting	1	1	-	-	-	-
Systems Software Support	Average price increase (Percent)	7.2	6.7	-	-	-	-
	Sample reporting	6	7	-	-	-	-
	Sample reporting no change	3	3	-	-	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	-	-	-	-

Sample size: 14

EXHIBIT B-2

User-Perceived Price Change Data 1989 Actual and Future—Apollo Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	-	-	7.5	14.9
	Sample reporting	-	-	-	-	2	4
	Sample reporting no change	-	-	-	-	6	3
	Average price decrease (Percent)	-	-	-	-	10.0	5.0
	Sample reporting	-	-	-	-	1	1
Systems Software Support	Average price increase (Percent)	-	-	-	-	8.4	5.0
	Sample reporting	-	-	-	-	4	2
	Sample reporting no change	-	-	-	-	6	5
	Average price decrease (Percent)	-	-	-	-	40.0	-
	Sample reporting	-	-	-	-	1	0

Sample size: 9

EXHIBIT B-3

User-Perceived Price Change Data 1989 Actual and Future—BULL HN Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	13.2	7.5	-	-	-	-
	Sample reporting	14	15	-	-	-	-
	Sample reporting no change	1	1	-	-	-	-
	Average price decrease (Percent)	7.5	-	-	-	-	-
	Sample reporting	2	0	-	-	-	-
Systems Software Support	Average price increase (Percent)	17.0	9.3	-	-	-	-
	Sample reporting	11	13	-	-	-	-
	Sample reporting no change	2	1	-	-	-	-
	Average price decrease (Percent)	5.0	-	-	-	-	-
	Sample reporting	1	0	-	-	-	-

Sample size: 19

EXHIBIT B-4

User-Perceived Price Change Data 1989 Actual and Future—CDC Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	4.9	6.7	-	-	-	-
	Sample reporting	7	7	-	-	-	-
	Sample reporting no change	4	1	-	-	-	-
	Average price decrease (Percent)	-	20.0	-	-	-	-
	Sample reporting	0	1	-	-	-	-
Systems Software Support	Average price increase (Percent)	5.0	5.3	-	-	-	-
	Sample reporting	5	7	-	-	-	-
	Sample reporting no change	5	2	-	-	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 12

EXHIBIT B-5

User-Perceived Price Change Data
1989 Actual and Future—Concurrent Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	5.8	7.9	-	-
	Sample reporting	-	-	6	7	-	-
	Sample reporting no change	-	-	4	3	-	-
	Average price decrease (Percent)	-	-	50.0	20.0	-	-
	Sample reporting	-	-	1	1	-	-
Systems Software Support	Average price increase (Percent)	-	-	7.5	11.3	-	-
	Sample reporting	-	-	4	4	-	-
	Sample reporting no change	-	-	6	6	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 20

EXHIBIT B-6

User-Perceived Price Change Data 1989 Actual and Future—DEC Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	5.1	7.5	-	-
	Sample reporting	-	-	10	14	-	-
	Sample reporting no change	-	-	9	6	-	-
	Average price decrease (Percent)	-	-	11.0	15.1	-	-
	Sample reporting	-	-	2	3	-	-
Systems Software Support	Average price increase (Percent)	-	-	11.8	8.5	-	-
	Sample reporting	-	-	9	13	-	-
	Sample reporting no change	-	-	9	8	-	-
	Average price decrease (Percent)	-	-	40.0	-	-	-
	Sample reporting	-	-	2	0	-	-

Sample size: 32

EXHIBIT B-7

User-Perceived Price Change Data 1989 Actual and Future—Data General Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	6.8	7.2	-	-
	Sample reporting	-	-	11	11	-	-
	Sample reporting no change	-	-	8	7	-	-
	Average price decrease (Percent)	-	-	15.7	20.0	-	-
	Sample reporting	-	-	3	3	-	-
Systems Software Support	Average price increase (Percent)	-	-	7.0	5.8	-	-
	Sample reporting	-	-	7	10	-	-
	Sample reporting no change	-	-	10	6	-	-
	Average price decrease (Percent)	-	-	-	15.0	-	-
	Sample reporting	-	-	0	1	-	-

Sample size: 23

EXHIBIT B-8

User-Perceived Price Change Data 1989 Actual and Future—Hewlett-Packard Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	5.7	6.3	-	-
	Sample reporting	-	-	3	10	-	-
	Sample reporting no change	-	-	6	2	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	-	-	0	0	-	-
Systems Software Support	Average price increase (Percent)	-	-	7.2	6.5	-	-
	Sample reporting	-	-	5	10	-	-
	Sample reporting no change	-	-	3	1	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	-	-	0	0	-	-

Sample size: 13

EXHIBIT B-9

User-Perceived Price Change Data 1989 Actual and Future—IBM Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	5.3	5.1	15.8	8.0	7.8	5.8
	Sample reporting	12	17	6	10	5	11
	Sample reporting no change	7	1	11	9	10	2
	Average price decrease (Percent)	6.0	6.0	10.0	-	10.0	25.0
	Sample reporting	1	1	1	0	1	1
Systems Software Support	Average price increase (Percent)	9.4	10.6	12.5	7.1	-	5.4
	Sample reporting	16	14	2	7	0	4
	Sample reporting no change	1	2	11	8	8	4
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	0	0	0	0

Sample size: 68

EXHIBIT B-10

User-Perceived Price Change Data 1989 Actual and Future—NCR Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	6.8	7.2	-	-	-	-
	Sample reporting	14	15	-	-	-	-
	Sample reporting no change	2	2	-	-	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	-	-	-	-
Systems Software Support	Average price increase (Percent)	4.8	4.3	-	-	-	-
	Sample reporting	7	8	-	-	-	-
	Sample reporting no change	7	7	-	-	-	-
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	0	0	-	-	-	-

Sample size: 21

EXHIBIT B-11

User-Perceived Price Change Data 1989 Actual and Future—Sun Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	-	-	14.0	6.0
	Sample reporting	-	-	-	-	3	5.0
	Sample reporting no change	-	-	-	-	4	5
	Average price decrease (Percent)	-	-	-	-	24.6	17.0
	Sample reporting	-	-	-	-	5	4.0
Systems Software Support	Average price increase (Percent)	-	-	-	-	30.0	7.8
	Sample reporting	-	-	-	-	2	4
	Sample reporting no change	-	-	-	-	8	6
	Average price decrease (Percent)	-	-	-	-	-	30.0
	Sample reporting	-	-	-	-	0	1

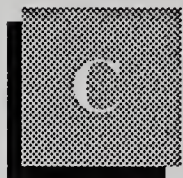
Sample size: 16

EXHIBIT B-12

User-Perceived Price Change Data 1989 Actual and Future—Tandy Users

Service Sector	User Price Trend Segments	Large Systems		Midrange Systems		PC/Workstation Systems	
		1989 Actual	Future	1989 Actual	Future	1989 Actual	Future
Hardware Service	Average price increase (Percent)	-	-	-	-	5.0	-
	Sample reporting	-	-	-	-	1	0
	Sample reporting no change	-	-	-	-	4	4
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	-	-	-	-	0	0
Systems Software Support	Average price increase (Percent)	-	-	-	-	5.0	5.0
	Sample reporting	-	-	-	-	1	3
	Sample reporting no change	-	-	-	-	3	1
	Average price decrease (Percent)	-	-	-	-	-	-
	Sample reporting	-	-	-	-	0	0

Sample size: 5



User Questionnaire

A

General

1. What is the make and model number of the main computer on your site and how many do you have?

Make _____

Model _____ (CRITICAL INFORMATION)

Units _____

2. Are you the person who is knowledgeable on the servicing of this system?

(If not then obtain the name of the correct person and start again.)

Name of person responsible _____

3. Do you have another system? What is the make and model number of that system and how many do you have?

Make _____

Model _____ (CRITICAL INFORMATION)

Units _____

All of the following questions that I am going to ask you are related to your _____ system.
(Write in system type.)

(To confirm, read out the make and model number.)

4. So that we can ensure that we get a proper cross-section of industry and commerce, can you tell me, what is the main business sector of your company?

(Read out the list to allow for best choice. Then circle appropriate answer.)

Business sector

Manufacturing	1
Distribution	2
Transportation	3
Utilities	4
Banking and Finance	5
Insurance	6
Government	7
Services	8
Other/Don't Know	9

B

Service Vendor Selection

I would like to ask you some questions relating to the vendor that services your computer system.

5. Could you please rate the importance of the following criteria in selecting your service vendor, on a scale of 0 to 10 (0 = low, 10 = high).

Criteria	Rating
a) Price	_____
b) Quality of service	_____
c) Guaranteed system availability level	_____
d) Guaranteed availability of spare parts	_____
e) Technical expertise	_____

f) Fast response time _____

g) Availability of software support _____

h) Ability to provide other services _____

Criteria

Rating

i) Contract flexibility _____

j) Ability to service other products _____

k) Vendor reputation _____

6a) Would you please tell me who services your computer system hardware?
(Remind the user _____ system)

(Please circle appropriate vendor type; multiple answers are allowed.)

Manufacturer 1

Dealer/distributor 1

Third-party maintenance company 1

Own company 1

Other 1

(If the respondent answered YES to third-party maintenance, ask the following question. If not, go to question 7.)

b) I notice that your system, or part of it, is serviced by a third-party maintenance company.
Could you tell me the reason why you use third-party maintenance?

(Please circle appropriate answer; multiple answers are allowed.)

Lower cost 1

Local service 1

Single-source service 1

IMO service higher quality	1
More flexible contract	1
Other/Don't know	9

7a) I notice that you do not use a third-party maintenance company; is there a reason for this?

(Please circle appropriate answer; multiple answers allowed.)

Satisfied with manufacturer	1
Manufacturer has an advantage	1
IMO cannot support software	1
Tied to manufacturer with contract	1
Fear of system supplier response	1
Considered and rejected IMO	1
IMO financial weakness	1
Unware of IMO	1
Other/Don't know	9

b) Assuming you were approached by a IMO company, at what level of price reduction would you consider using a IMO vendor to service your computer hardware?

(Please circle appropriate answer. Only one answer allowed.)

1% - 10%	1
11% - 20%	1
21% - 30%	1
31% - 40%	1
41% - 50%	1

50% +	1
Unwilling at any price	1
Other/Don't know	9

8. How important is it that your service vendor communicates with you regularly and effectively to advise you of, for example:

The status of your system >

Possible problems >

Repair plans >

Availability of spare parts >

Routine visits >

Hardware and software changes >

INTERVIEWER

PROMPTS

Could you please provide an importance and satisfaction rating on a scale of 0 to 10, where 0 is of no importance or indicates total dissatisfaction, and 10 is at top importance or indicates full satisfaction.

Importance _____

Satisfaction _____

- 9a). Would you prefer all hardware maintenance and software support to be provided by one service vendor at each site? If yes, what would your interest level be?

(Circle answer)

Yes 1

No 1

Don't know 9

Level of interest: (please circle)

LOW MEDIUM HIGH

(If the respondent answered YES, ask:)

9b) Who would you prefer that vendor to be?

(Please circle appropriate answer; multiple answers allowed.)

The manufacturer of your main hardware	1
Dealer/distributor/VAR	1
IMO company	1
One of your hardware manufacturers	1
Other/Don't know	9

Note: VAR is a value-added reseller.

C

Hardware Maintenance

I would now like to ask you some questions about the hardware maintenance of your computer system. (Reaffirm the system type _____)

Some of the questions are scaled with ratings from 0 to 10. Zero (0) represents zero importance or satisfaction, 5 is average, and 10 represents top importance or full satisfaction.

10. What is your rating of the importance of hardware maintenance to your business and how satisfied are you with your service vendor's performance?

importance rating _____

satisfaction rating _____

11. If we define SYSTEMS AVAILABILITY as the percentage of your normal working hours that the system is operational (disregarding non-critical peripheral breaks), what percentage has that been for your system over the last twelve months?

Percentage _____%

12. How many times each year does your system fail completely for a period of greater than one hour?

Per year _____

And what percentage of these system failures are due to:

Hardware _____%

Systems software _____%

Applications software _____%

Other (i.e., power failure) _____%

(Please check that percentages add up to 100.)

13. What is your rating for the importance of SYSTEMS AVAILABILITY (scale 0-10), and what is your level of satisfaction?

Importance rating _____

Satisfaction rating _____

14. Defining HARDWARE RESPONSE TIME as the time it takes between reporting a fault and the arrival of the service engineer on site (in working hours, that is to say 8 hours = 1 working day), what response time (in hours) do you find acceptable and what did you actually experience as an average over the last twelve months?

Acceptable _____Hours

Experienced _____Hours

15. If repair time is defined as the time taken to get the system fully operational from the time the engineer arrives on site, then what time do you find acceptable (in working hours) and what time did you experience in the last twelve months?

(Note: 8 hours = 1 working day/shift)

Acceptable _____Hours

Experienced _____Hours

16. I would now like go through a list of five aspects of hardware maintenance and ask you to give both an IMPORTANCE and a SATISFACTION rating for each (scale 0-10).

	<u>Importance</u>	<u>Satisfaction</u>
Spares availability	_____	_____
Engineer skills	_____	_____
Problem escalation	_____	_____

Documentation _____

Remote diagnostics _____

17. How important is it that your system supplier provides a hardware CONSULTANCY/PLANNING service to support your operations and how satisfied are you with the service provided? (Scale 0-10).

Importance _____

Satisfaction _____

18. If possible, I would like you to provide some information on hardware maintenance pricing.

- a) What percentage price increase or decrease did you pay for hardware maintenance in the year 1989?

Increase _____%

Decrease _____%

No change 1 (circle)

- b) What do you expect the price changes for hardware maintenance to be in the future, in percentage terms per annum?

Increase _____%

Decrease _____%

No change 1 (circle)

- c) How important do you rate HARDWARE MAINTENANCE PRICING and how satisfied are you with the price you currently pay? (scale 0 - 10)

Importance rating _____

Satisfaction rating _____

19. Which type of hardware maintenance contract do you currently have on the main part of your system?

(Please circle appropriate answer; only ONE answer allowed.)

Warranty	1
Three-year	1
One-year	1
Time-and-materials	1
None	1

D

Software Support

I would like to ask you some questions relating to the service you get from your software support vendor.

These questions relate to SYSTEMS SOFTWARE - NOT APPLICATIONS.

As before, some of the questions are scaled with ratings from 0 to 10. Zero (0) represents zero importance or satisfaction, 5 is average and 10 is top importance or full satisfaction.

20. Who supports your systems software?

(Please circle appropriate answer; multiple answers allowed.)

Hardware manufacturer	1
Software house	1
Software product vendor	1
Value-added reseller (VAR)	1
In-house	1
Other/Don't know	9

21. What is your rating of the importance of systems software support to your business and what is your satisfaction with your vendor's systems support activities? (Scale 0-10)

Importance rating _____

Satisfaction rating _____

22. What percentage of systems software problems are solved by telephone, and how long does this take in elapsed time from the time the service engineer is alerted?

Solved by phone _____%

Elapsed time _____Hours

23. For those problems NOT possible to solve over the telephone, what RESPONSE TIME would you find acceptable, and what time (on average and in working hours) have you experienced over the last twelve months? (Take RESPONSE TIME to mean from the time the problem is reported to the arrival of the engineer on site.)

Acceptable _____(Hours)

Experienced _____(Hours)

24. If FIX TIME is defined as the time taken to get the system fully operational from the arrival of the engineer on site, then what time (in working hours) do you find acceptable, and what did you experience over the last twelve months?

Acceptable _____(Hours)

Experienced _____(Hours)

25. I would now like to go through a list of five aspects of systems SOFTWARE SUPPORT and ask you to give an IMPORTANCE and a SATISFACTION rating for each. (Scale 0 - 10)

	<u>Importance</u>	<u>Satisfaction</u>
Engineer skills	_____	_____
Documentation	_____	_____
Software installation	_____	_____
Provision of updates	_____	_____
Remote diagnostics	_____	_____

26. How important is it that your system supplier provides a systems software CONSULTANCY/ PLANNING service to support your operations and how satisfied are you with the service provided? (Scale 0 - 10)

Importance _____

Satisfaction _____

27. If possible, I would like you to provide some information on systems software support pricing.

- a) What percentage price increase or decrease did you pay for systems software support in the year 1989?

Increase _____%

Decrease _____%

No change 1 (circle)

- b) What do you expect the price changes for systems software support to be in the future, in percentage terms per annum?

Increase _____%

Decrease _____%

No change 1 (circle)

- c) How important do you rate SYSTEMS SOFTWARE SUPPORT PRICING and how satisfied are you with the price you currently pay? (Scale 0 - 10)

Importance rating _____

Satisfaction rating _____

28. Which type of systems software support contract do you currently have?

(Please circle appropriate answer. Only ONE answer allowed.)

Support included in software license fee 1

Three-year contract 1

One-year contract 1

Ad hoc 1

None 1

E

Other Services

29. To conclude this questionnaire, I am particularly interested in obtaining your views on other services or modified current service offerings that your service suppliers could provide that would help to improve the running of your computer systems.

Could you say which of the following services your service vendor is currently contracted to supply and which you would like your service vendor to provide? Also, could you give a level of interest rating against each in the range 0 to 10 where 0 = no interest, 5 = average interest and 10 = must have.

(Please circle appropriate answer and give LOI rating.)

	<u>Currently Contracted</u>	<u>Require</u>	<u>LOI</u>
Configuration planning	1	1	___
Capacity planning	1	1	___
Environmental planning	1	1	___
Cabling	1	1	___
Software evaluation	1	1	___
Consultancy	1	1	___
Network planning	1	1	___
	<u>Currently Contracted</u>	<u>Require</u>	<u>LOI</u>
Network management	1	1	___
Disaster recovery	1	1	___
Facilities management	1	1	___
Problems management	1	1	___
Applications software support	1	1	___

F**Additional Questions for In-Depth User Interview**

30. What do you consider to be the major contentions or issues related to the price you pay for the servicing of your computer system?

Hardware Service

Systems Software Support

31. What pricing strategy or policy do you believe your service vendor is using?

Hardware Service

Systems Software Support

32. What pricing strategies or policies would you prefer your service vendor to adopt, or what do you feel are appropriate pricing strategies in the current computer environment?

33. What do you consider to be the strengths and weaknesses of your service vendor in providing value-for-money service?

Strengths

Weaknesses

34. Would you be prepared to pay more for a higher quality of service?

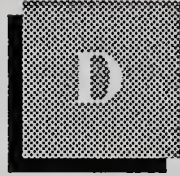
35. Do you feel that your service vendor provides good "value for money" service? If not, how do you believe that your service vendor can enhance the perceived value of service?

36. Is there one single comment that describes your views on the price you pay for service?

37. What are the most likely circumstances that would cause you to consider an alternative service vendor, for example an independent maintenance company?

38. What are the factors that make you prefer to continue with your existing service vendor?

39. In your opinion, what are the trends in service pricing going to be over, say, the next five years?



Vendor Questionnaire

1. What do you consider to be the major contentions and issues related to service pricing?

Hardware Service

Systems Software Support

2. How does your company intend to address the issue of increasing market penetration by independent maintenance companies, and what sort of strategy will you adopt?

a) Confrontation

Strategy

b) Alliances/Partnerships

Strategy

c) Service Packaging

Strategy

d) Other

3. What factors do you consider are creating the greatest pressure on pricing?

4. What pricing strategies are you currently using and what would be your long-term strategies?

Current

Long Term

5. What do you believe to be the most significant factors that users assess in a vendor's pricing policy?

6. What do you think are the major strengths and weaknesses of the vendor's pricing strategies?

Strengths

Weaknesses

7. What do you think will be the long-term trend, say over the next five years, in vendor pricing strategies and policies?

8. What do you feel are the vendor's greatest strengths in addressing the issue of independent maintenance, and the most significant weaknesses?

Strengths

Weaknesses

9. Is there one single factor that you believe will prove to have a major influence on future service pricing?

10. Do you believe that the threat of independent maintenance companies creating pressure on pricing will continue, and for how long? What mechanism, if any, will be responsible for a return to status quo?

11. What impact do you believe the creation of the single European market, in 1992, will have on service pricing?

12. What do you feel to be the main cause, if any, of user pressure on service pricing?

Report Quality Evaluation

To our clients:

To ensure that the highest standards of report quality are maintained, INPUT would appreciate your assessment of this report. Please take a moment to provide your evaluation of the usefulness and quality of this study. When complete, simply fold, staple, and drop in the mail. Postage has been pre-paid by INPUT if mailed in the U.S.

Thank You.

1. Report title: ***U.S. Customer Service Pricing Trends and Competitive Environment 1990*** (FCPRO)

2. Please indicate your reason for reading this report:

- | | | |
|---|---|---|
| <input type="checkbox"/> Required reading | <input type="checkbox"/> New product development | <input type="checkbox"/> Future purchase decision |
| <input type="checkbox"/> Area of high interest | <input type="checkbox"/> Business/market planning | <input type="checkbox"/> Systems planning |
| <input type="checkbox"/> Area of general interest | <input type="checkbox"/> Product planning | <input type="checkbox"/> Other _____ |

3. Please indicate extent report used and overall usefulness:

	Extent		Usefulness (1=Low, 5=High)				
	Read	Skimmed	1	2	3	4	5
Executive Overview.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part of report (____ %).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How useful were:

- | | | | | | |
|----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Data presented | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Analyses..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Recommendations..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. How useful was the report in these areas:

- | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Alert you to new opportunities or approaches..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cover new areas not covered elsewhere..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Confirm existing ideas..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Meet expectations..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

6. Which topics in the report were the most useful? Why? _____

7. In what ways could the report have been improved? _____

8. Other comments or suggestions: _____

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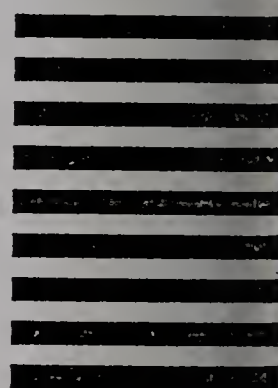
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